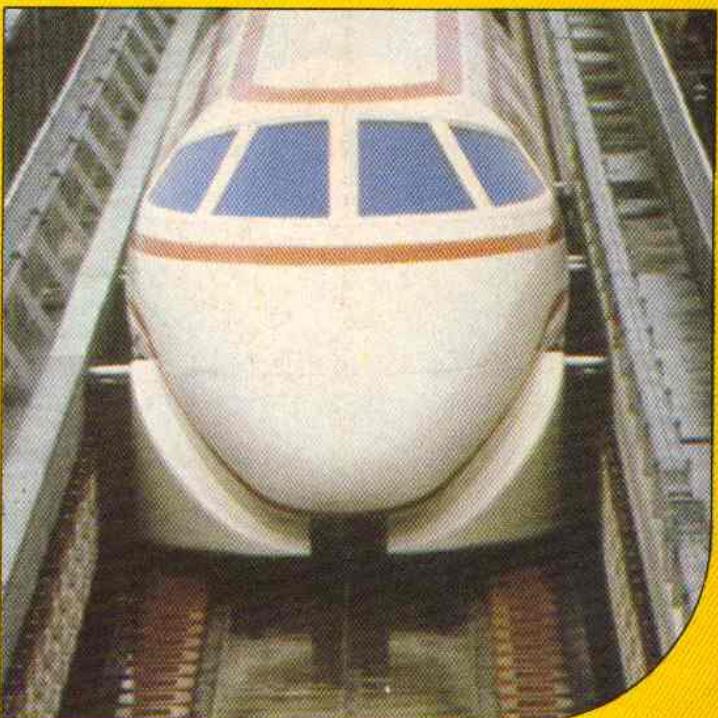
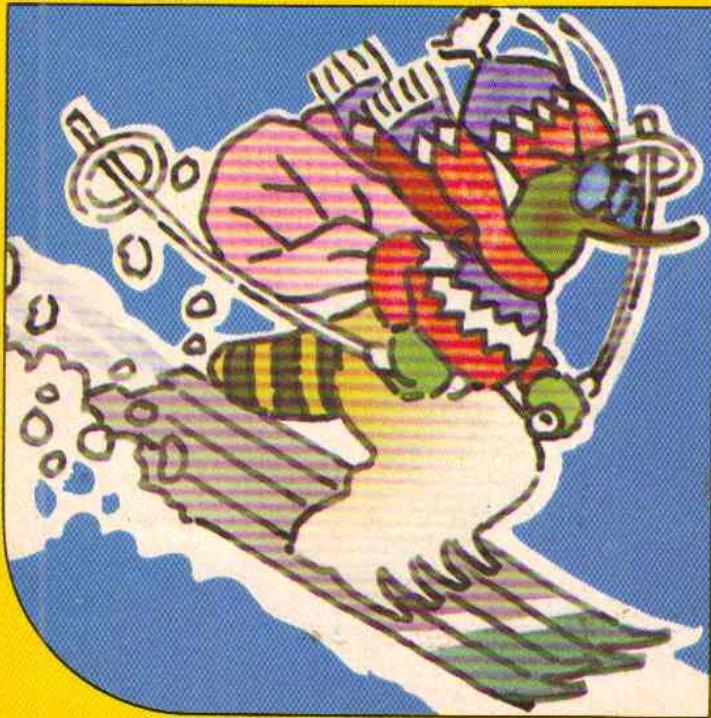
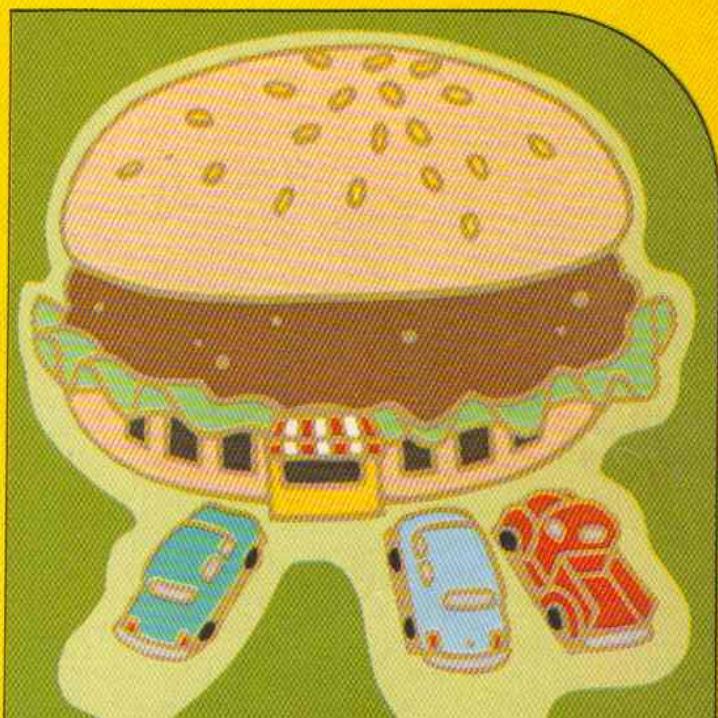
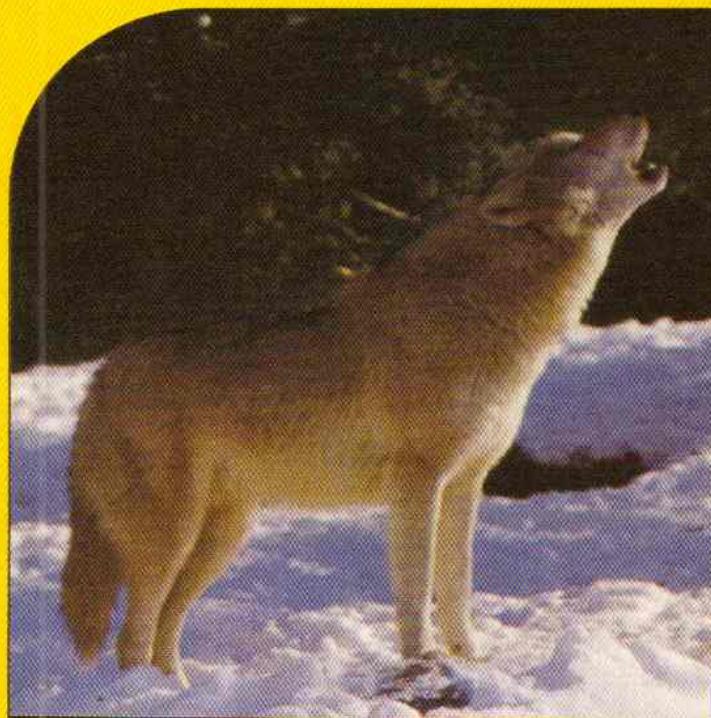


321 CONTACT

The Truth About Wolves



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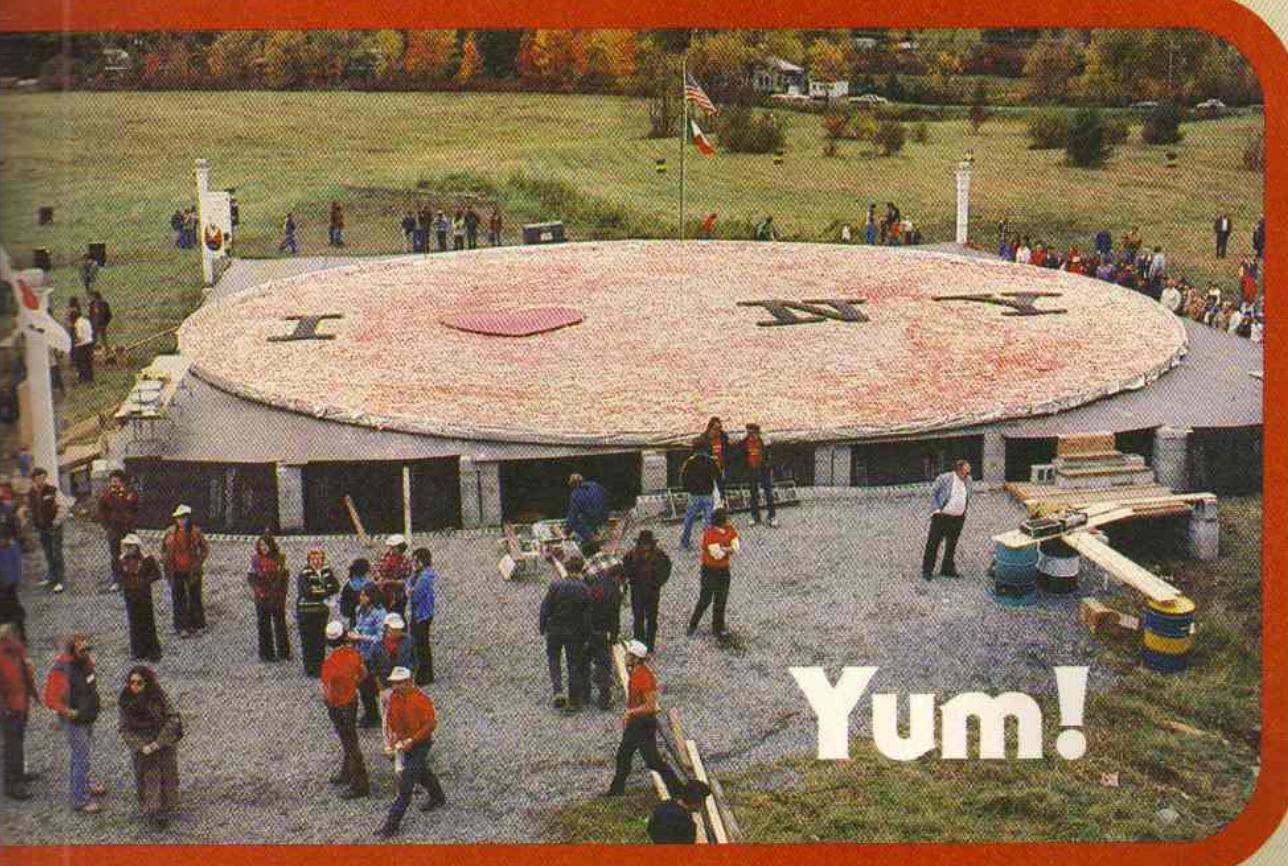
Dr. Edward L. Palmer

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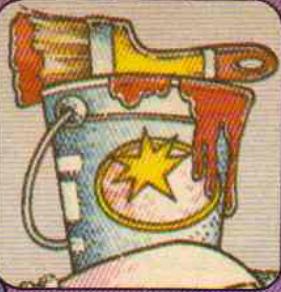
Yum!

This is the largest pizza that was ever baked. It set a world record in 1978. The giant pizza was 80 feet (24 m) across. That makes it longer than a lot of pizza parlors. The spectacular pizza was cut into 60,318 slices. Pass a napkin, please!

Pizza is one of the favorite foods of CONTACT readers. You can find out what other popular foods are on page 4. After you've digested that story, you might even want to move on to page 12. There you will find out about some of the world's biggest things. Speaking of the biggest, be sure to check out this month's poster. You will discover that some small things can be pretty big, too!



Page 8



Page 10

321 CONTACT

Page 12



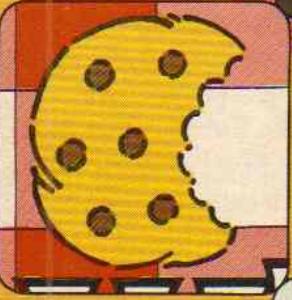
Page 18



Page 22



Page 27



Page 32



Featuring This Month

- 4** Food for Thought: CONTACT Readers Tell What They Like to Eat
- 14** The Bloodhound Gang: The Case of Trouble in Paradise (Part One)
- 17** Tracks: A Railroad Game
- 20** CONTACT Poster
- 22** Never Cry Wolf: A New Movie Looks at a Misunderstood Animal
- 27** What's Cooking?: A CONTACT Quiz

Plus Our Regular Departments

- 8** Factoids
- 10** Any Questions?
- 12** List of the Month: Big Deal!
- 18** Contact Report
- 26** Do It!: The World's Biggest Riddles
- 30** Timeline: Railroads
- 32** Mail
- 34** Reviews & Previews
- 36** Experiment: Vitamin Trick
- 37** Did It!: Answers
- 39** Earth Works: Earthquakes

Chris's Menu

1 orange, 1 bowl Froot Loops and milk
1 glass V-8 Juice, 3 crackers with peanut butter
1 grape soda, 1 Coke,
1 pack sunflower seeds
1 hamburger with everything on it,
1 pack Ruffles
1 Pepsi, 1 Summit, 1 Twix,
1 Three Musketeers
1 glass of milk
4 platefuls of spaghetti with sauce, a little broccoli with melted cheese
some popcorn, three brownies

FOOD FOR THOUGHT

CONTACT READERS TELL WHAT THEY LIKE TO EAT

by Michele Grodner

There you go again. You're hungry, and it's time to eat. So what will it be this time? Will you choose food that is loaded with energy? Something filled with vitamins? Whatever looks yummy at the moment?

We wanted to know what readers of CONTACT ate. So we ran a contest last year. Send us a list of everything you eat in a single day, we said. Don't leave anything out. Put it all down, even if you have a secret taste for chocolate-covered carrots or toasted ice cubes.

Well, the results are in. The news is that the 375 CONTACT readers who answered eat enough kinds of food to fill your local supermarket. Big favorites included cereal, peanut butter, chicken, hot dogs, hamburgers, juice, pizza and milk. But basically, you folks eat everything. To give you a better idea of what our readers ate, we picked three sample "menus." Each one appears exactly the way it was sent to us. And each one gives you a few ideas about the way most Americans are eating these days.

Chris's Menu

Chris is a typical CONTACT reader. He ate three meals a day, plus snacks. There were a lot of foods high in nutrition, including sunflower seeds, peanut butter, broccoli and milk. But the one thing you notice most of all in Chris's menu is the sugar.

Carol's Menu

Breakfast:

1 1/2 eggs, 2 sausages,
1 cup grape juice, 1 piece toast with butter

Snack:

Orange Julius

Lunch:

1 bowl alphabet and vegetable soup,
1 ham and cheese sandwich

Snack:

1 bag potato chips, 1 cup grape juice,
1 hot dog, 1 doughnut

Dinner:

2 pork chops, 1 bowl beef stew soup,
2 bowls rice

Dessert:

2 slices watermelon, 1 orange

Snack:

1 cup grape juice, 1 bag potato chips

Froot Loops, soda, brownies and candy bars are all loaded with the sweet stuff.

That's not surprising. The United States is a country filled with sugar lovers. The average American eats about 130 pounds (58 kg) of sugar every year! Much of this is in foods like ice cream, cake and candy. But sugar is hidden in other foods, too. It may be hard to believe, but even foods like ketchup and bread contain sugar.

It's not that sugar is all bad. It's a high energy food. Since kids burn off a lot of calories every day, eating some sugar each day is fine. But eating too much can be a problem.

If you eat too many sweets, you will probably not be hungry at meal time. Sugar provides energy. But it also makes you feel filled up. You might then want to skip eating other foods which are

more important. They provide energy plus nutrients your body needs. So the danger of sugar is that it could displace other foods you would eat.

Should Chris stop eating sweets? Not really. But he could cut down. Some of his other snacks, like sunflower seeds, peanut butter and popcorn are healthier foods. By eating more of them, and a little less soda and candy, his diet would be more balanced.

Carol's Menu

Carol has eaten a variety of foods. Even though she snacked between meals, she stayed away from too many sugar-loaded foods. But in her meals there was another problem. At all meals that day, she ate foods that had a lot of fat. These include sausages, hot dogs, pork chops and potato chips. ➤

Jeffrey's Menu

For breakfast I ate ... 2 eggs, 2 strips of bacon, 2 cinnamon rolls and 1 glass of milk.

For lunch I ate ... A whole salami sandwich on wheat bread and 1 glass of milk and grapes.

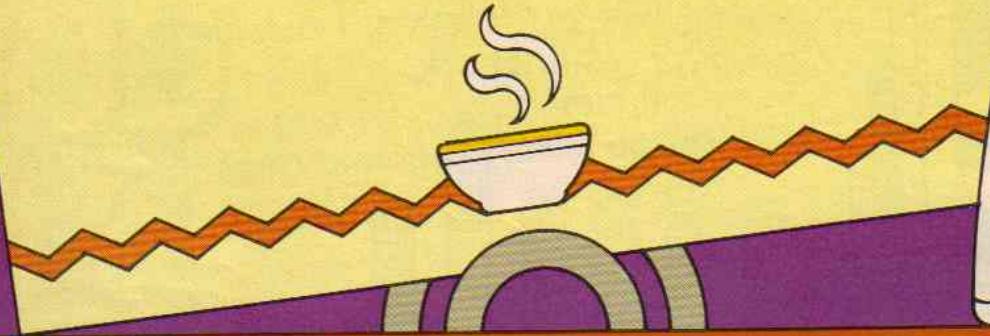
For a snack I ate ... 3 homemade chocolate cookies and Kool-Aid.

For dinner I ate ... 1 1/2 hot dogs, 2 1/2 potato pancakes, some steak, salad made of lettuce, carrots and radishes, and 2 glasses of milk. I ate the hot dogs with ketchup.

I had creamy Italian dressing with the salad.

For dessert I ate ... 3 scoops of rainbow sherbet.

After that I was still hungry!



Once again this is typical of a lot of Americans. This country's food supply is changing. Many foods have higher levels of fat than ever before. For example, there is a lot of fat in meals served at fast-food restaurants. There is also a lot of fat in processed meats like bologna, hot dogs and salami.

Fat does provide your body with some important nutrients. It is also high in energy. And, since it takes your body longer to digest fat, you won't feel hungry so quickly.

But what happens if you eat too much fat? Some of it will be burned off as energy. But the rest will be stored as body fat. Eating a lot of fatty foods increases the chance of being overweight. And for adults it can also lead to other health problems, such as heart disease.

Should Carol eat less fat? That depends. She certainly ate a lot of fatty foods on this particular

day. But she might eat foods like chicken, tuna fish, fruits and vegetables on other days. By mixing in these low fat foods she can keep her meals balanced every week.

Jeffrey's Menu

By now you're probably getting the hang of this. You can spot the fatty foods and the sugary ones Jeffrey was eating. But there's another food sprinkled through Jeffrey's menu. It's salt.

How much salt do Americans consume in a year? About 15 pounds (6.7 kg) each. Salt is needed in small amounts to control the amount of fluid in your body. But you don't have to worry about whether you're getting enough. There is plenty of salt in foods to meet the needs of your body.

What you should watch instead is eating too much salt. It can happen without your knowing it.

CONTACT Readers' Food Survey

Here are the results of the CONTACT readers' food survey.

FOOD	PERCENTAGE OF KIDS WHO ATE IT
Breakfast	
cereal	32.5%
toast	17.3%
eggs	12.0%
fruit	8.5%
pastry	6.4%

82 children (21.9%) had some type of juice for breakfast, while 80 others (21.3%) said that they drank milk.

Lunch

The most popular food for lunch for 27.5% kids was some type of sandwich.

peanut butter	9.3%
cheese	5.1%
bologna	5.1%
tuna fish	1.9%
ham	1.9%
salami	1.6%

because salt, just like sugar, is often hidden in foods. There is salt in bread, corn flakes and even in ice cream. Salt is also used to prepare ready-to-eat foods, like salami, bologna and canned soup. You also get foods high in salt at some fast-food restaurants. And, of course, you know that salty foods like pretzels and potato chips can add to your salt total for the day.

Eating too much salt increases the chances of developing a disease called *high blood pressure*. This disease makes a person's heart work much harder to pump blood through the arteries. Years ago, it was mostly adults or elderly people who got high blood pressure. But now because of changes in American eating habits, high blood pressure sometimes occurs in teenagers or even younger kids.

Jeffrey can't take the salt out of the hot dogs he

FOOD	PERCENTAGE OF KIDS WHO ATE IT
------	-------------------------------

Other common lunch preferences were:

hot dogs	4.5%
pizza	4.0%
hamburgers	2.9%
eggs	2.9%
soup	2.4%

Dinner

Most children ate some type of meat for dinner.

chicken	8.5%
hamburger	6.7%
steak	5.6%

Here were some other popular main dinner dishes:

fish	4.0%
spaghetti	4.8%
pizza	4.8%
lasagna	3.2%

Vegetables were also popular at dinner.

potatoes	11.5%
green vegetables	9.6%
non-green vegetables	12.5%
salad	10.4%

The most popular drink at dinner was milk (15.5%) followed by soda (8.0%).

Snacks

These snacks were popular with the readers.

ice cream	15.7%
candy	15.2%
cookies	14.7%
gum	10.9%
pretzels, chips, etc.	10.7%
fruit	7.2%
pastry	2.9%

The most common drinks at snack time were:

soda	5.9%
milk	4.5%
juice	4.0%

ate for dinner. But there's one thing he can do. Most people sprinkle extra salt on foods without ever thinking about it. The trick is to stop doing this. It may take a little time to get out of the habit. But you'll find that most foods taste fine without that extra salt.

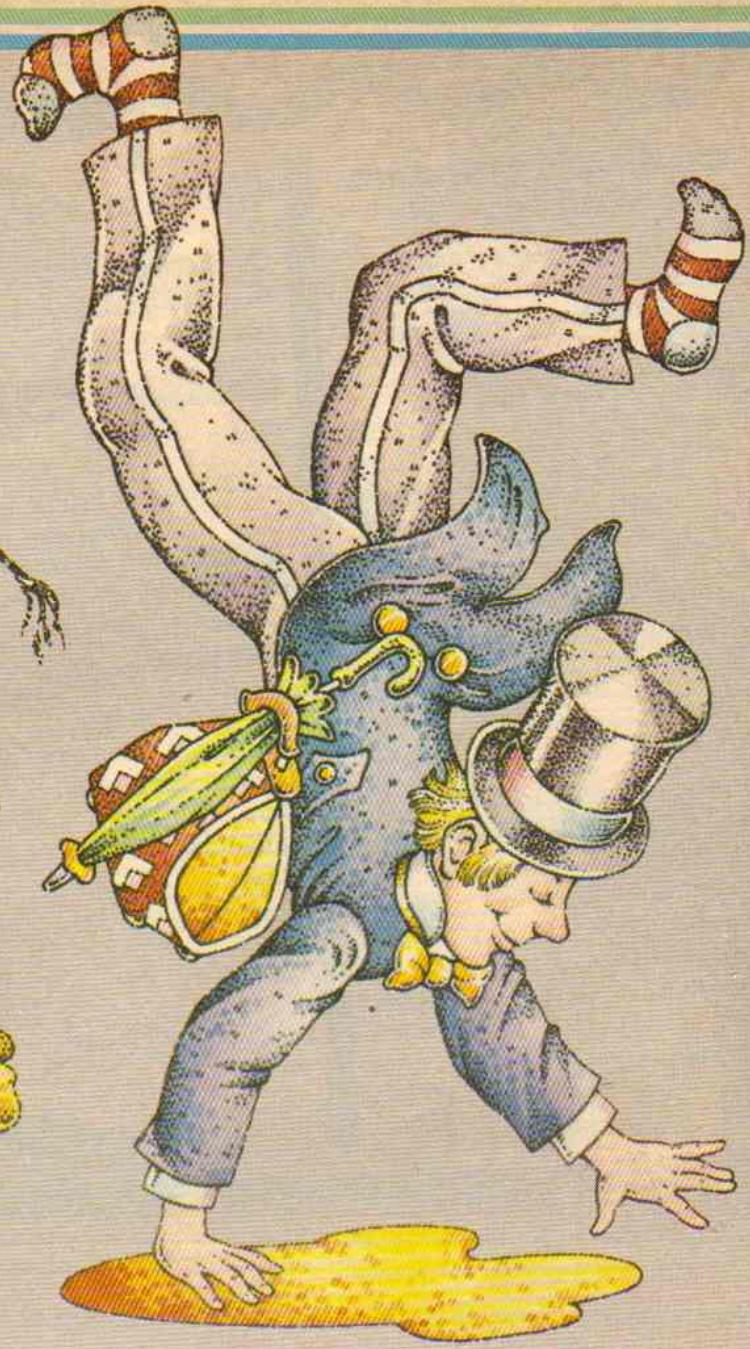
Your Menu?

Do you eat like Chris, Carol and Jeffrey? Or do you have a style all of your own? Why not find out for yourself? Make a list of all the foods you eat in a day. Or better yet, make a list for the week. Then compare it with the results of our survey that you see here. You might even try to see how much sugar, salt and fat you are eating. (You can find hidden sugars and salts listed on food labels.) Then decide if you need to make any changes. You may be happier and healthier in the long run.

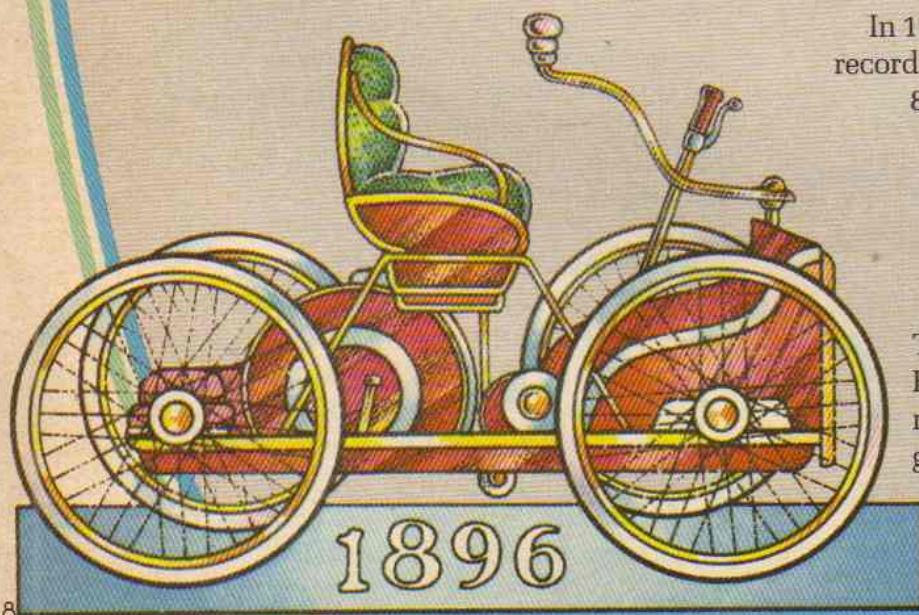
Factoids



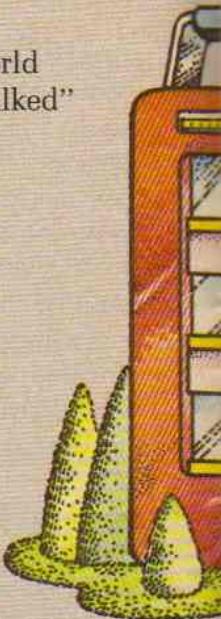
Paint, made from plants and clay, was first used by cave people over 20,000 years ago.

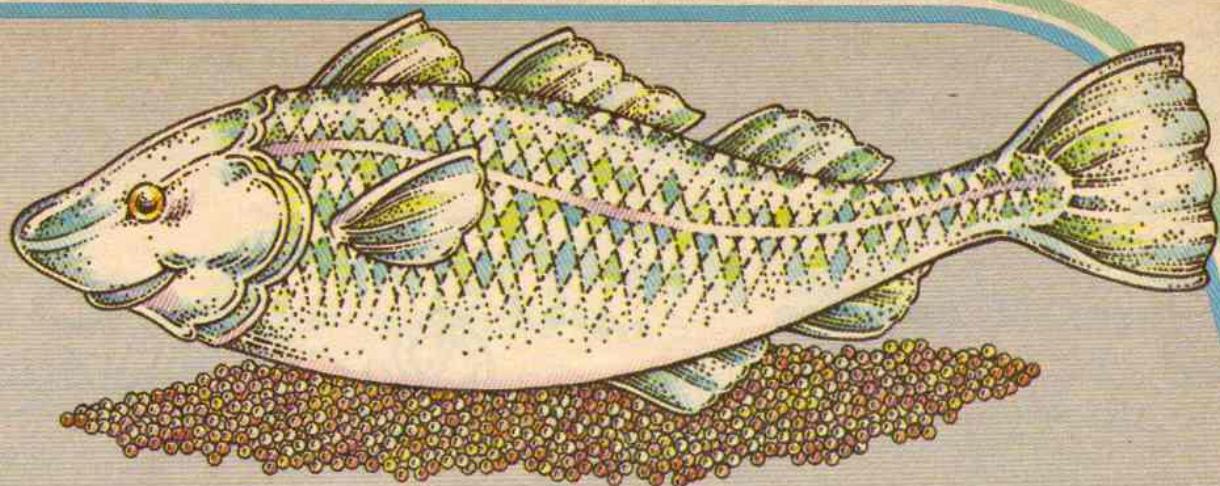


In 1900, Johann Hurlinger set a world record for walking-on-hands. He "walked" 871 miles from Vienna to Paris.



The first car, built by Henry Ford in 1896, had no brakes and couldn't go backward.





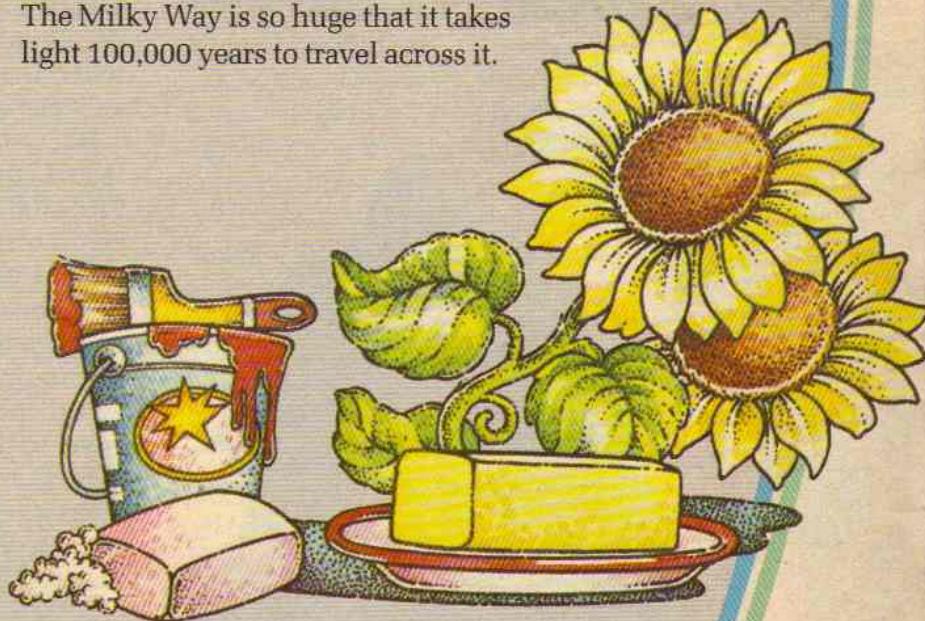
A codfish lays up to four million eggs at one time.
On the average, only two of these will become fish.



There are more than
8,000 radio stations
in the United States.



The Milky Way is so huge that it takes
light 100,000 years to travel across it.



Oil from sunflower seeds is used to
make margarine, paint and soap.

Any Questions?

by Marilou Carlin

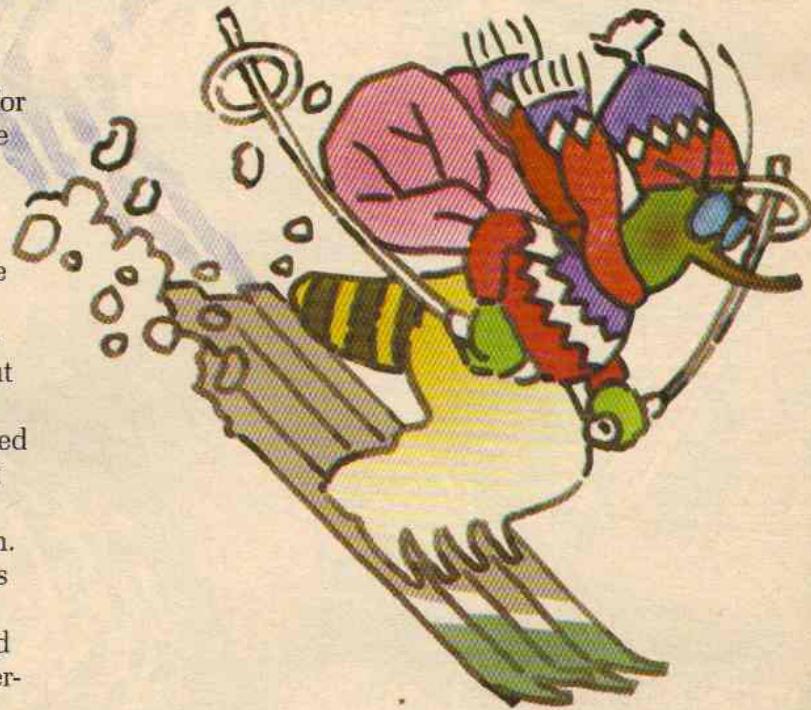
What do insects do in the winter?

Most insects use winter to get ready for new life in spring. Insects such as grasshoppers die when winter comes. But before they do, they lay their eggs. In spring, the eggs hatch and the baby grasshoppers come out to begin their short lives.

Other insects sleep through the cold season. The queen of a yellow jacket nest is a good example. When winter comes, she hides in a safe place. She hibernates until spring arrives. Then she comes out to start a new nest of yellow jackets.

Many bugs must spend part of their lives wrapped in cocoons. For some of them, winter is the perfect time to do this. Many maggots and caterpillars develop hard shells around their bodies in autumn. They spend the winter inside, where great changes take place. In the spring, they break out of their cocoons. What once was a maggot is now a fly. And the crawly caterpillar has become a beautiful butterfly or moth.

Question sent in by Jean Steiner, Brooklyn, NY.



Why is ocean and lake water blue?

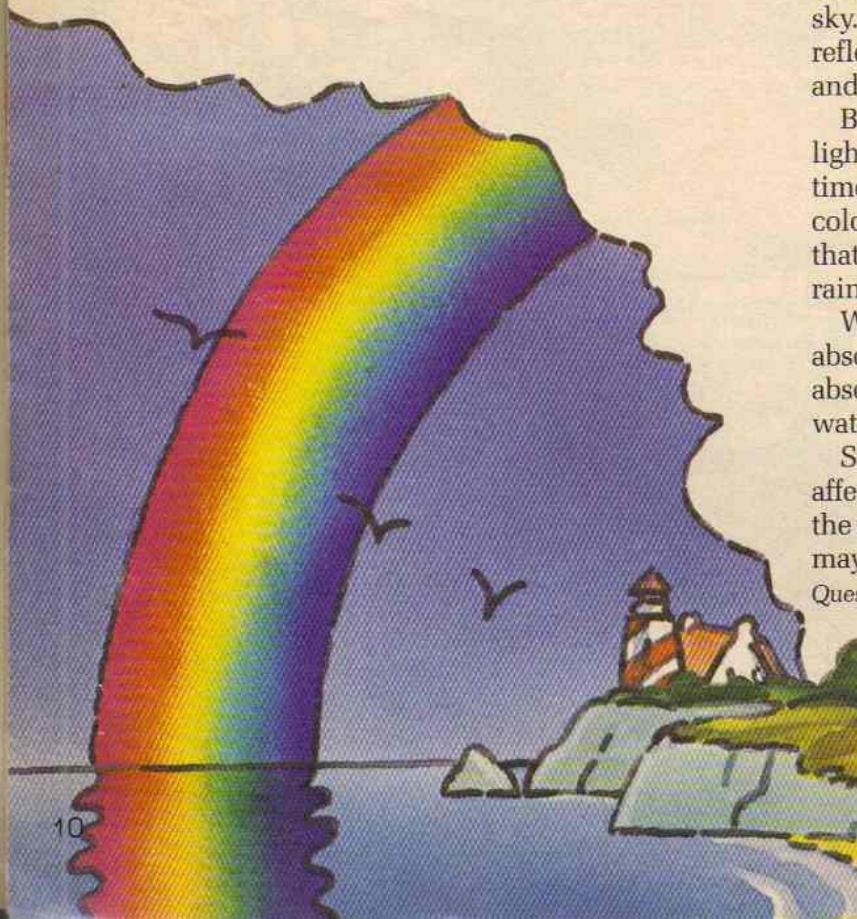
Part of the answer to that question is in the sky. Oceans and lakes act as huge mirrors. They reflect the blue sky above them. So you see ocean and lake water as blue, too.

But water gets most of its color because of sunlight. Light is really made up of many colors. Sometimes the light gets broken up, or scattered. The colors of a rainbow, for instance, are actually light that has been bent and scattered by passing through raindrops.

When light hits ocean or lake water, the water absorbs most of the different rays. But it doesn't absorb the blue ones. They scatter over the clear water so that it looks blue.

Sand and tiny plants and animals in the water can affect its color, too. When light passes through them, the rays scatter differently. That's why ocean water may look different colors even at the same beach.

Question sent in by Darcy Wolfman, Rockville, MD.



Do you have a question that no one seems able to answer? Why not ask us? Send your question, along with your name, address, and age, to:

Any Questions?
3-2-1 CONTACT
P.O. Box 599
Ridgefield, NJ 07657

Why does your nose run when it is cold outside?

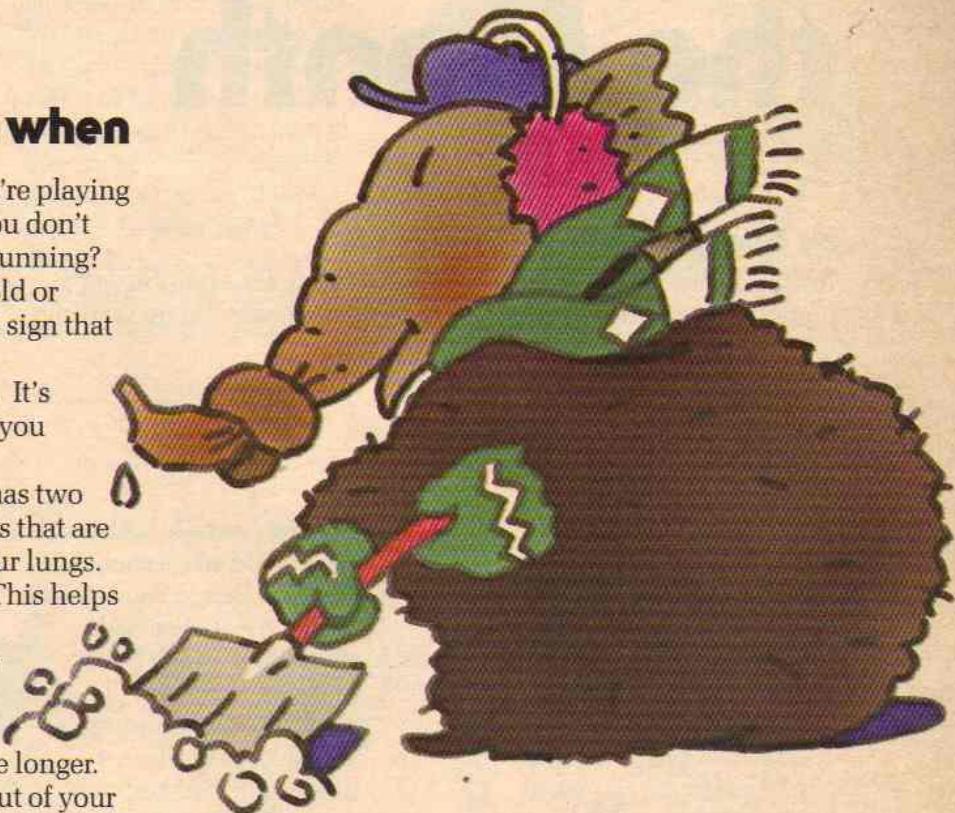
Suppose you're playing outside on a chilly November morning. You don't have a cold. So why does your nose keep running? A running nose is sometimes a sign of a cold or allergy. But in cold weather it can also be a sign that you're healthy.

Lining the inside of your nose is mucus. It's what comes out of your runny nose when you blow it. But you know that.

What you may not know is that mucus has two jobs. It catches dust and other tiny particles that are in the air. This stops dirt from reaching your lungs. Mucus also moistens the air you breathe. This helps to protect your throat and lungs.

The more dry, cold air there is, the more mucus you need. Your nose works overtime making lots of extra mucus so that your throat and lungs will stay comfortable longer. The extra mucus has nowhere to run but out of your nose. So it does!

Question sent in by Thomas Fowler, Trondheim, Norway.



What makes the sun burn and why doesn't it burn out?

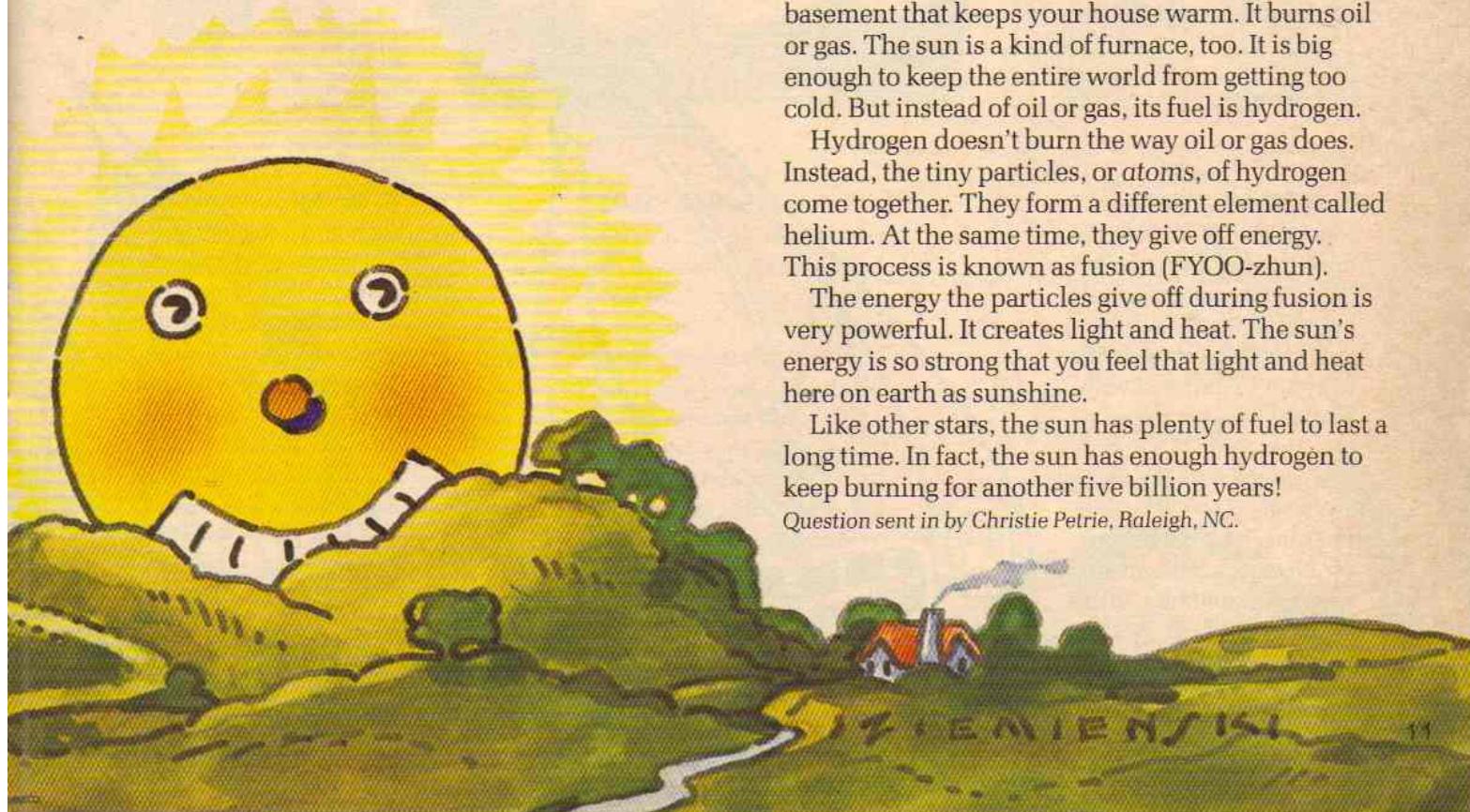
You know what a furnace is, right? It's that big thing in the basement that keeps your house warm. It burns oil or gas. The sun is a kind of furnace, too. It is big enough to keep the entire world from getting too cold. But instead of oil or gas, its fuel is hydrogen.

Hydrogen doesn't burn the way oil or gas does. Instead, the tiny particles, or atoms, of hydrogen come together. They form a different element called helium. At the same time, they give off energy. This process is known as fusion (FYOO-zhun).

The energy the particles give off during fusion is very powerful. It creates light and heat. The sun's energy is so strong that you feel that light and heat here on earth as sunshine.

Like other stars, the sun has plenty of fuel to last a long time. In fact, the sun has enough hydrogen to keep burning for another five billion years!

Question sent in by Christie Petrie, Raleigh, NC.

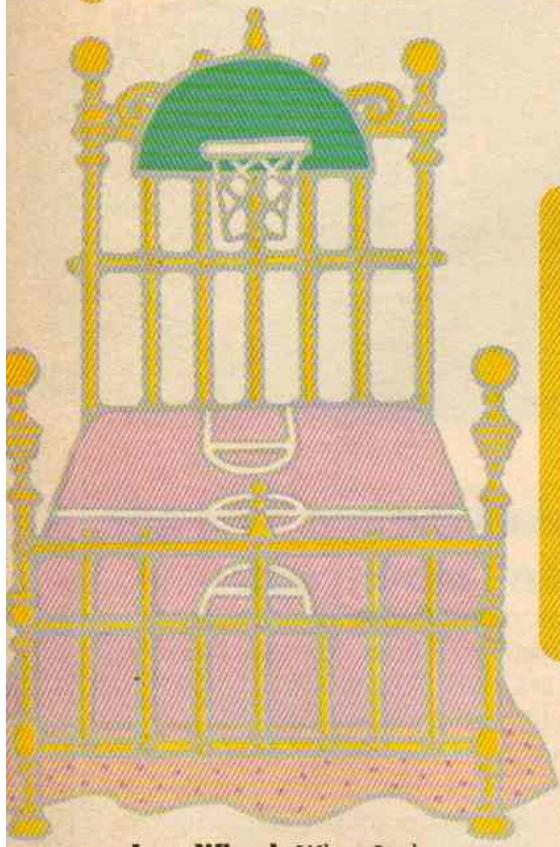


List of the Month

Dig Deal!

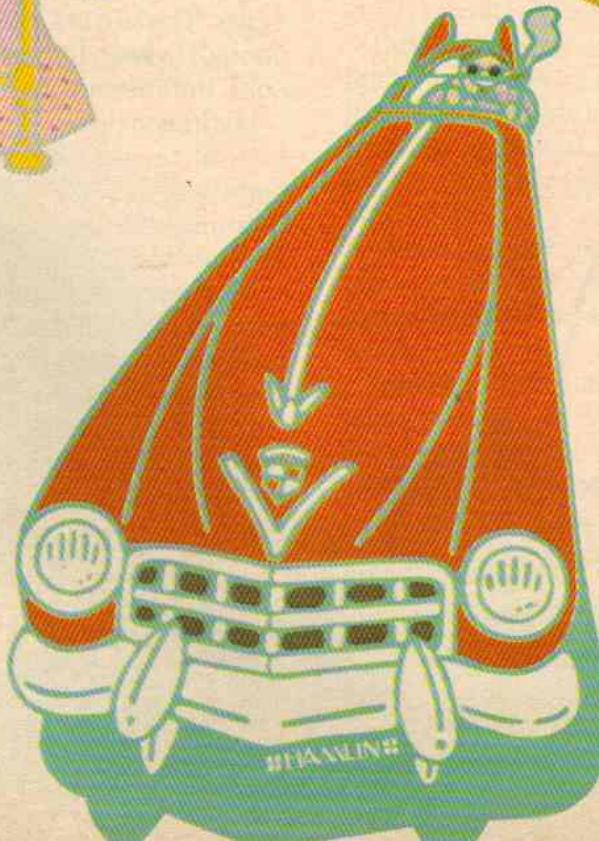
by Nancy Arnott

Imagine a turtle that weighs as much as a car. Or a hamburger bigger than 11,000 Big Macs. For more "big deals," keep reading.



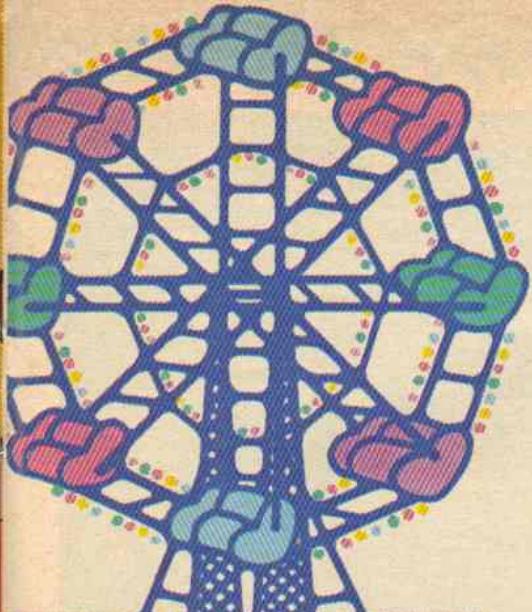
Long Wheels When Joel Nelson goes for a drive, he must feel like he never left home. His car is a specially built Fleetwood Cadillac that's the biggest car in the world. It's equipped with an eight-speaker stereo system, two color TVs, a sink, refrigerator, four telephones and a safe. The car is 29 1/2 feet long. It's a good thing Mr. Nelson has plenty to do while the attendant "fills 'er up."

Dig Bed A whole basketball team could take a snooze in the Great Bed of Ware. It is 10 feet, 8 1/2 inches wide and 11 feet, 1 inch long. But even basketball players would have trouble climbing in! It's also 8 feet, 9 inches tall. This bed was built around 1580. Originally, it was part of the furniture at a hotel in England. Today you can see it at a museum in London.



All Aboard! Almost any ferris wheel seems awfully big when you are on top of it. But the biggest of all is the Riesenrad ferris wheel in Vienna, Austria. With a diameter of 197 feet, it's higher than the Statue of Liberty. This wheel set a record by carrying 15 million people in its first 75 years. Maybe you'll get to take a spin on it someday.

Yo Ho Ho! James Williams has a yo-yo that attracts attention even when it's not moving. This giant yo-yo weighs 30 pounds and has a 265-foot cord. Built in 1974, it runs on a 1 1/2-horsepower motor. When it was dropped 21 stories out the window of a building, it came back up 15 stories. Only the Jolly Green Giant needs a yo-yo like that.



Mighty Music Better use ear plugs if you listen to the Auditorium Organ in Atlantic City, New Jersey. It is the largest and loudest musical instrument in the world. There are two keyboards and 33,112 pipes, ranging in size from $\frac{3}{16}$ of an inch to 64 feet. The organ has a 365-horsepower motor. It is as loud as 25 brass bands. Today, it doesn't work as well as it once did. The neighbors must be glad of that.



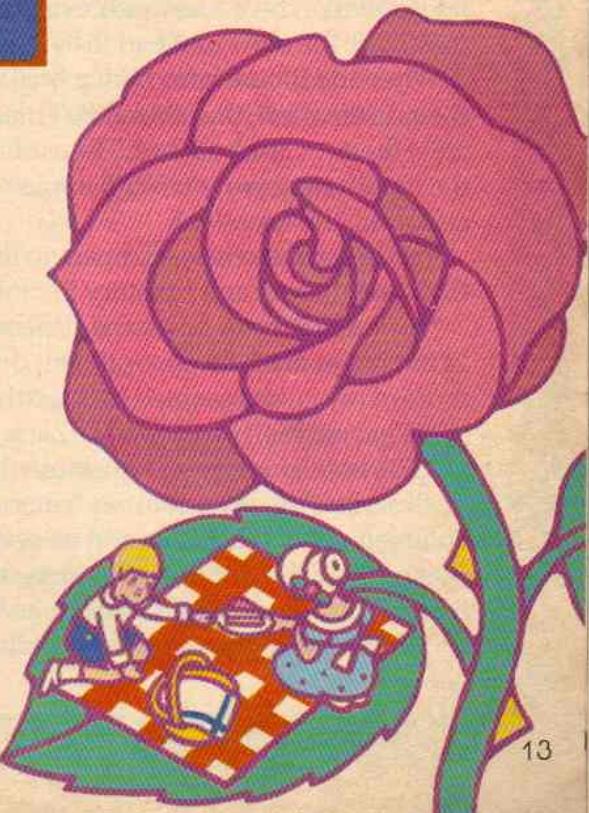
Burger Biggies Think a quarter-pounder is a big meal? It's nothing compared to a giant burger which was made for a fair in Australia. This all-beef patty weighed 2,859 pounds and measured 27½ feet around. On September 24, 1975, the hamburger was shown to the public. Imagine how big the bun must have been!



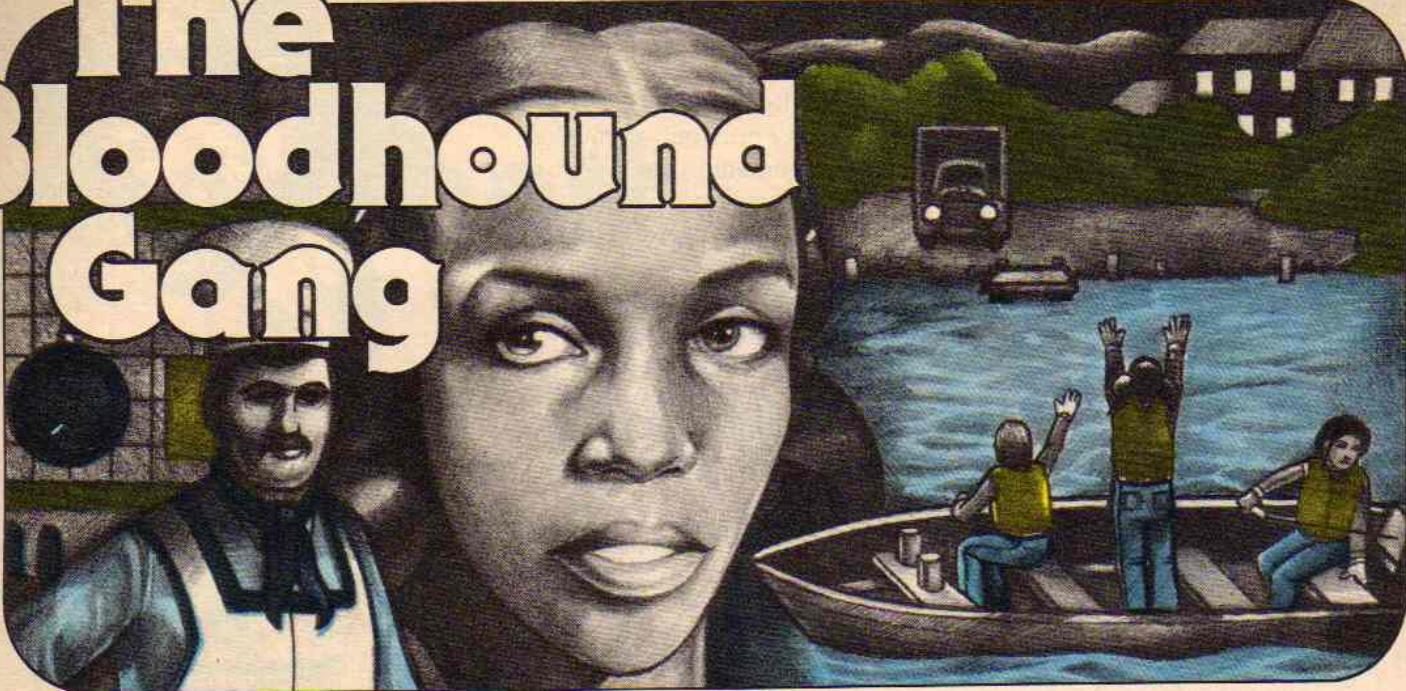
Tremendous Turtle A Pacific leatherback turtle is big enough to give you a piggy-back ride. An average adult is six to seven feet long and weighs 660 to 800 pounds. But one leatherback caught near Monterey, California, makes all the others look puny. This turtle is still on display at an aquarium. He is 8 feet, 4 inches long including his head. And he weighs 1,908 pounds. That's nearly a ton of turtle.



Shady Acres A picnic for all your friends and relatives in the shade of a rose tree? Not likely, unless you sat under the "Lady Banks" rose tree. This tree is located in Tombstone, Arizona. It stands six feet high with a trunk 40 inches thick. It covers 5,380 square feet of ground. About 150 people can sit under it at one time. That would be some big picnic!



The Bloodhound Gang



A Case of Trouble in Paradise

Part One

Vikki, Ricardo and Zack, otherwise known as the Bloodhound Gang, received a message from Mr. Bloodhound that had them packed and at the railway station in a flash. It was from Bill Blake, owner of the Paradise Hotel and a friend of Mr. Bloodhound's. He was encountering some big problems at his new resort. Now, as Ricardo put it, it looked like there was trouble in paradise, and they were the crew that had to bail Blake out.

When the Bloodhound Gang finally reached their destination, they found Bill Blake waiting to greet them. "Climb aboard," he said, pointing to the hotel's big green van. "I'll explain as much as I can along the way."

The three detectives snapped on their seat belts. Blake set the van and his story in motion.

"It started about a week ago," the man began. "First it was just a few people. But then more and more of my guests seemed to be getting sick."

"What are their symptoms?" Zack inquired.

"The hotel doctor can't diagnose the cause. But he describes the symptoms as nausea, headaches, enlargement of the pupils and teary eyes," said Blake. "And the doc and your boss seem to think there's some kind of mild poison involved."

"Mr. Bloodhound also thinks a situation like

this could close your place down. Is there anyone who would want to see that happen?" Vikki asked.

"Yes, any unhappy employees? Anyone recently fired?" Ricardo added.

"There's my chef," said Blake. "I fired him last week. But he's still working out his notice."

"Poison and a chef," remarked Ricardo. "That's a promising lead. Has the food been tested?"

"Yes," said Blake. "But nothing was found."

"Then let's assume that if it is the chef, he's come up with another way of administering the poison," Zack concluded.

A Second Suspect

"Any other possible suspects?" Vikki questioned.

"Well, there's Joe Barker, owner of Mountain-side Retreat, a hotel across the lake. Since we opened up, his business has gone downhill. See, we offer water sports—a big lake, boating, swimming. All he's got to offer is a small pool near the main house."

"That sounds like a motive, too," said Zack.

"Yes," agreed the man. "But I don't see how he could have come in contact with my guests. He hasn't been here since before we opened up."

The Bloodhound Gang exchanged a puzzled glance as the van came to a halt. In front of them was a large main house surrounded by lovely white cottages.

"It's beautiful!" Vikki exclaimed. "You must have put a lot of work into this place."

"Three years of work and my life savings," the man said. "And for what? If these poisonings continue, everything goes down the drain!"

"Don't worry, Mr. Blake," said Vikki. "We'll clear this up for you right away. I promise."

"What you told Blake sounded great," said Ricardo as, minutes later, the Bloodhound Gang walked up to their rooms. "But weren't you being overly optimistic? I mean, I'm not even sure where we should begin."

"Well, I am," said Zack. "Our first step is to interview the guests—those that got sick and those that didn't. I'm sure there's a clue there."

"Right," said Vikki. "Let's get to work."

For the next few hours, Vikki, Ricardo and Zack spoke with all the guests at the Paradise Hotel.

"It looks like the trouble in Paradise is floating in the lake," Ricardo said, showing the others the notes he'd made. "See? Most of the people who are still okay haven't spent much time swimming. The people who've developed all the symptoms say they've spent most of their time in and around the lake."

"That may mean something has been done to the water," Vikki put in. "But the question is: what?"

A Scientific Investigation

"Water samples might be able to help us there," suggested Ricardo. "Maybe we should call in the EPA—Environmental Protection Agency—to check this out."

"I don't know," said Zack. "We don't want to cause any more panic here than there already is. Maybe we can take our own samples and then get the EPA to test them for us."

"But doesn't the EPA mostly handle cases that involve chemical companies dumping chemicals into water?" Vikki asked.

"Yes," said Zack. "And that's something we should consider, too. Maybe this has nothing to do with revenge. Maybe a factory or chemical company's been using this lake as a dumping ground."

"Good thinking," said Ricardo. "The water sam-

pies should tell us that, too. Now we'll just have to arrange for a boat so we can take samples from different parts of the lake."

"We'll also need to get some rubber gloves to protect our hands while we work," Vikki added. "If the water touches our skin, we could wind up as sick as everyone else."

"Right and we'll need some bottles too, to hold the samples we gather," said Ricardo.

"Yup," agreed Zack. "And they'll have to be sterilized, so they're germ free."

With the beginnings of a plan in hand, the Bloodhound Gang sprang into action. First, they spoke with Bill Blake.

"I'll have a motorboat waiting for you at the dock," the man assured them. "The only thing I ask is that you wait until after dinner before setting out. I wouldn't want any of my guests to become more uneasy than they already are."

"No problem," said Vikki. "But what about the bottles and the rubber gloves we need?"

"You'll have to see Andre, my chef, about those items," said Blake. "I'll tell him to expect you."

"Great," said Zack. "He's one of our main suspects. Now we'll have an excuse to question him without getting him too suspicious."

The Gang Meets the Chef

"Rubber gloves . . . sterilized bottles . . ." muttered Andre as he puttered around the hotel kitchen. "I'm a chef, not a supply closet."

"And a good chef, too," said Vikki. "Everyone says so."

"Ha!" said Andre. "So good that I'm being fired! Well, make no mistake about it, Blake will pay for how he's treated me!"

The Bloodhounds looked at one another.

"How will Blake pay?" Zack asked.

Andre didn't answer. He just smiled and shook his head.

"Uh, why exactly were you fired?" Ricardo questioned, hoping the chef would be more forthcoming on that subject.

"Bad temper!" Andre growled, picking up a large coffee pot and angrily throwing it across the room. "Can you imagine—me being fired for a stupid thing like that?"

"It certainly sounds unlikely," Vikki replied, trying to hold back a grin as she watched the coffee pot bounce off the wall and noisily hit the floor. ➤

"Yeah, yeah, yeah. Well, tell it to the judge. Anyway, here are the things you wanted," said the angry chef. He handed them a carton filled with bottles and rubber gloves. "Now get out of here. I have a dinner to create!"

"He's quite a character," Zack commented as he, Vikki and Ricardo hurried out of the kitchen.

"Yeah," said Ricardo. "I don't think I'd like to cross frying pans with him!"

As Bill Blake had suggested, the Bloodhound Gang waited until the evening meal was over. Then they headed down to the lake.

A Mysterious Figure

When they approached the lakefront, the Gang noticed a lone figure walking toward the area where the boats were docked.

"Hey you!" shouted Ricardo. "This area is off limits."

"Please," said the man. "I meant no harm. Barker's the name... Joe Barker. I've got a place across the lake. And a fine place it used to be, too."

"Then what are you doing sneaking around here?" Ricardo asked suspiciously.

"I'm not sneaking around, son. I'm looking. Thinking of asking Blake if I could rent a piece of the lake." He pointed to an area across the water that faced his property. "Might be that I could bring back some business that way."

"Well, Mr. Blake is in the dining room, if you want him," Vikki offered.

"Yes, yes; I see," said Barker. "Well, uh, I reckon it will keep till morning. I'll be back to see him then. Good night to you," he stammered and he scurried off.

"That was strange," said Zack. "I'd say we'd better keep an eye on that guy."

"We'd also better get a move on," said Vikki. "It's starting to rain."

The three detectives put on their rubber gloves. They climbed into the motorboat Bill Blake had prepared for them. Then they rode out to the middle of the lake to gather the water samples.

"Boy, the sky is really getting dark now," said Ricardo. "It looks like a big storm is coming up."

"Yeah, and it's getting windy, too," said Zack, as he wiped the rain out of his eyes. "We should head back."

Ricardo turned on the boat's motor. But instead of the steady humming sound it usually made, all

that came out were three loud coughs. Then the motor went dead.

"Try it again," urged Vikki.

"It won't do any good," Ricardo told her. "The gas tank is empty."

"Impossible!" said Vikki. "Bill specifically mentioned that the boat had a full tank."

"Then either he was wrong or someone drained off the gas," Zack whispered. "We're going to have to row back."

"How?" said Ricardo. "There are no oars."

"Then what are we going to do?" gasped Vikki. "We can't chance going in the water. We won't be any use to anyone if we're sick."

"Calm down," said Zack. "There are lights over there. It looks like a car or something." He pointed to an area near the lakefront.

"Maybe Blake came looking for us," Ricardo said.

"Well, let's hope someone did," said Vikki. "And let's hope they can hear our screams above the storm."

They counted to three and began to shout: "Help! Help! Can you hear us? Help!"

But their shouts were met by nothing more than a gruff laugh as the man and the vehicle that could have saved them turned away from the lake and disappeared into the darkness of the night.

Will the Bloodhound Gang escape the perils of Paradise Lake?

To find out, read part two of "A Case of Trouble in Paradise," in next month's issue of 3-2-1 CONTACT.



TRACKS

This is a game you play by yourself.

1. Start at the red signal and finish at the green.
2. The numbers at the stations stand for passengers. As you go, keep score of how many people you pick up.
3. Wherever the tracks cross, you may switch your path. But careful! Use a pencil to follow your path. You may only travel on each track one time.
4. Can you get 75 passengers? The best ride will pick up all 150 people.

Answer on page 37.

Contact Report

Earth Days A day is 24 hours long, right? That's the case right now, but it wasn't true long ago. And it probably won't be true in the future.

Believe it or not, the earth is actually slowing down. It is turning one second per year slower than it did in 1900, says Collier Smith of the National Bureau of Standards. This slowdown may have been going on for a very long time.

Several forces are working together to put the brakes on. The moon's gravity is one thing that pulls on our planet. Then there's the friction created when the molten inner core of the earth rubs against the harder rock near the surface.

Although one second in 82 years isn't much, it can add up. According to Smith, fossils show that days were shorter hundreds of millions of years ago. Now, if the earth keeps on slowing down, days will get longer. But you won't notice the difference—unless you plan to be around for another few million years!

—Written by Renée Skelton



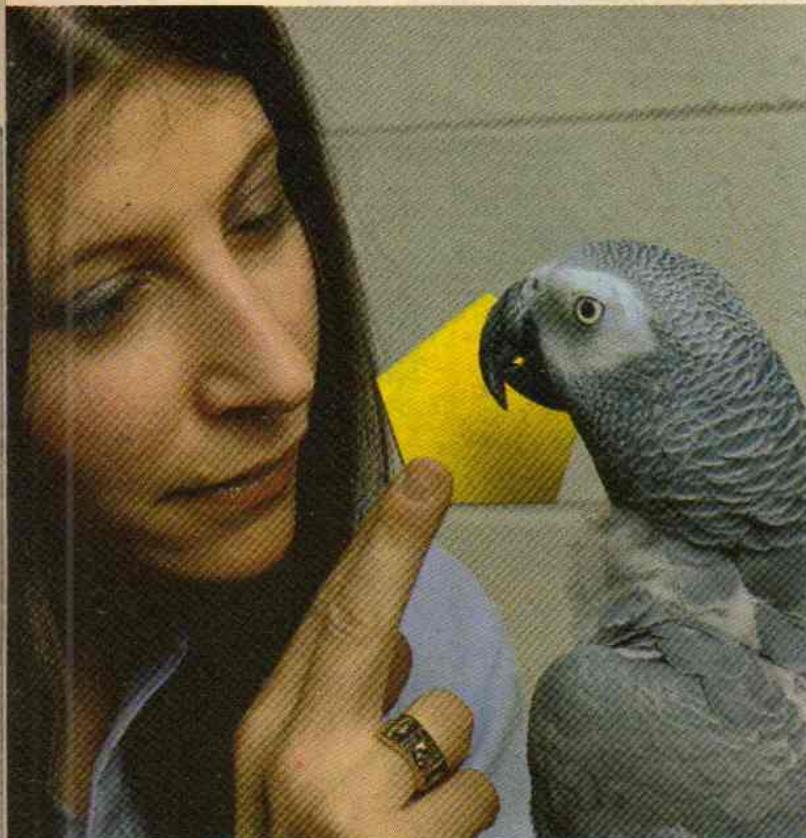
Earth is spinning a tiny bit slower now.

Alex Wants a Cracker Dr. Irene Pepperberg is a scientist who talks to Alex, her African gray parrot. And he talks back. What's the big deal? Dr. Pepperberg says that, unlike other talking birds who just copy sounds, Alex really knows what he's saying.

For five years, Dr. Pepperberg and some of her Purdue University students have spent time each day with Alex. They show him objects and try to teach him the words for them. Now the parrot can say over 40 words. Dr. Pepperberg claims he asks for foods he likes. She says the bird also knows the words for some shapes and colors.

Many other scientists would say that Alex doesn't really know what he's saying. But not Dr. Pepperberg. To her, Alex is no bird brain.

—Written by Renée Skelton



Does this parrot know what it's saying?

Contact Report

Riding the Rails What do you get when you cross a railroad and a bicycle? A railcycle, of course!

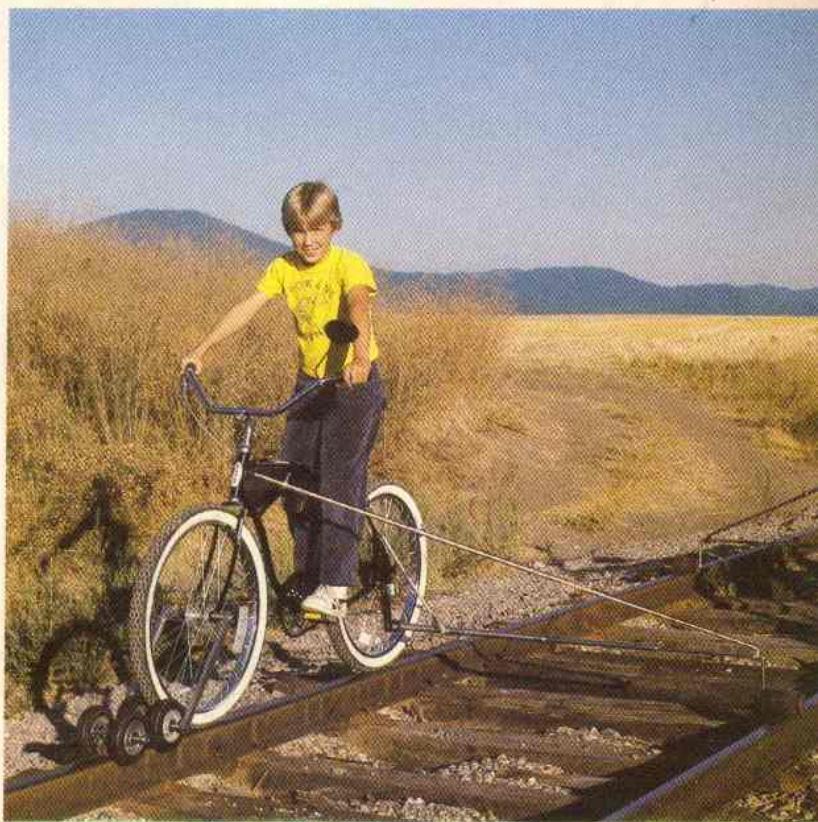
Dr. Richard Smart, an Idaho dentist, got the idea for the railcycle from an old photograph. It showed a bicycle attached by a metal rod to a railroad track. In the 19th century, railroad workers used these special bikes to inspect tracks or get help for disabled trains.

A few years ago, Dr. Smart designed a modern version of the railcycle. It can be ridden on the tracks and off the tracks, too. It adjusts to any size of rail. And since you don't need to steer, you can take pictures or even eat while you ride.

Dr. Smart likes to use abandoned tracks in the country for his railcycle rides. But if a train does come along, he says that an adult can pull the cycle off the tracks in a jiffy.

The inventor doesn't think kids should ever ride a regular bike on a railroad track, however. You should stick to safe streets or the park.

—Written by Carol Costello



Mike Smart is glad his dad invented this railcycle.

A Tip from Lips Teaching deaf people to understand spoken words may become easier, thanks to a computer with lips.

Robin Hight, a St. Louis computer technician, has created a computer program that teaches deaf people to read lips by watching a mouth on a computer screen. The mouth can make all the movements a human mouth makes to say each letter of the alphabet. Deaf students learn to recognize the lip movements for saying various words. Then when people talk to them, they understand what is said.

—Written by Renée Skelton

What's That? Did you read about some kid who invented an electric nosewarmer? Or one who set some new science record? Then cut out the newspaper or magazine story and send it to us. If we use your story, we'll send you a CONTACT T-shirt. Be sure to include your name, age, address and T-shirt size. You must include the name of the newspaper or magazine. Write to: **The Contact Report**

P.O. Box 599
Ridgefield, NJ 07657

These computer lips help deaf people learn to lip read.





Largest frog:
Goliath frog,
lives in Africa,
 $13\frac{1}{3}$ inches from
nose to tail.



Largest
hummingbird:
Giant hummer,
found in
South America,
body 9 inches
long.



Biggest peanut:
Grown in North
Carolina, $3\frac{1}{2}$
inches long.



Biggest bird's egg:
Ostrich egg, found in
Africa, 8 inches long,
6 inches in diameter.

**The
Diggest
of the
small**

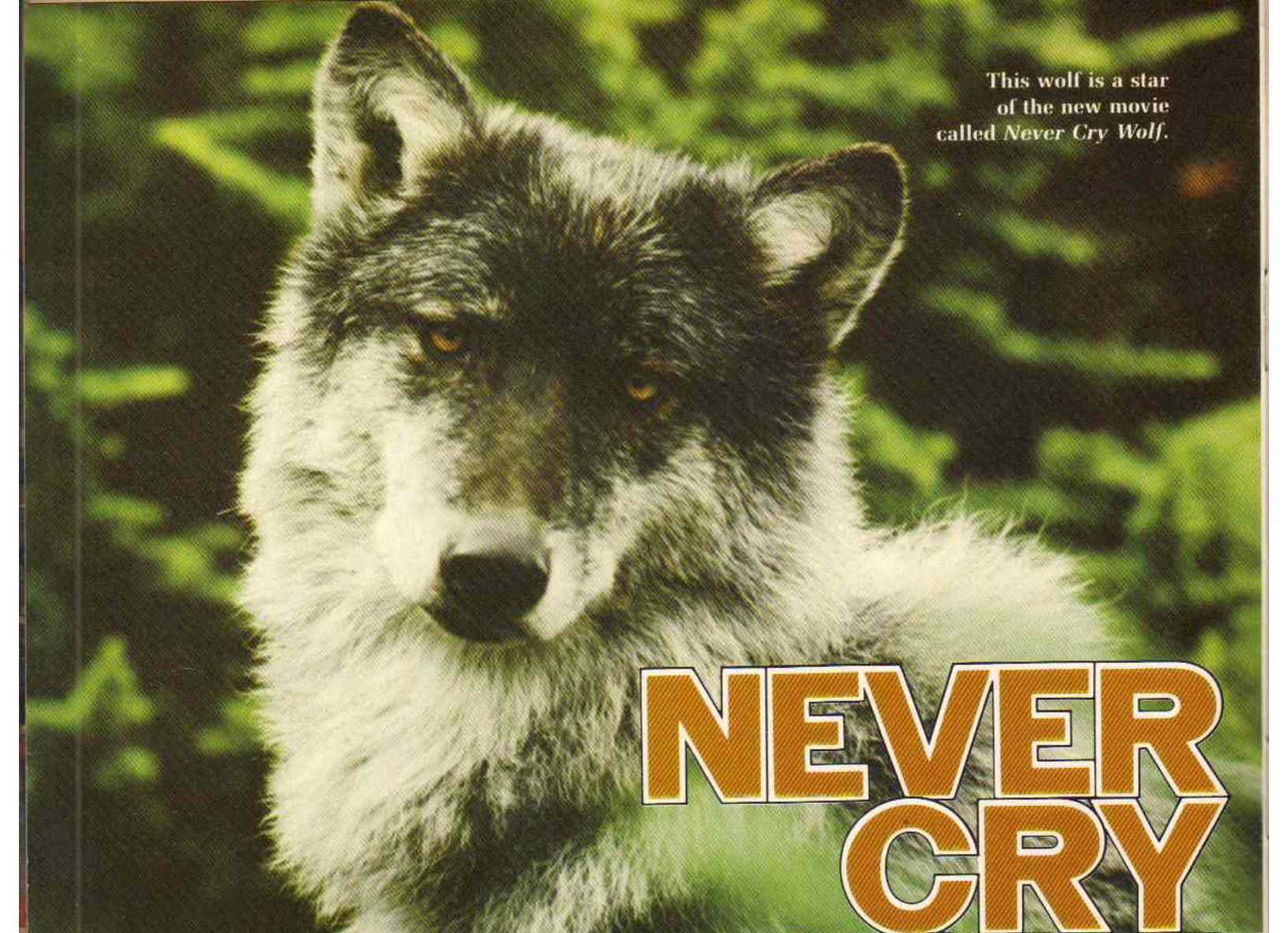
Here you'll see
the actual size
of some of the
biggest of the
world's small
animals and
plants.

Biggest fly: Robber fly,
lives in South America,
body $2\frac{1}{3}$ inches long.

Largest
flea: Found
in Washington,
 $\frac{1}{3}$ inch long.

Biggest spider:
Bird eater, lives
in South America,
10-inch leg span.

Largest butterfly:
Queen Alexandra birdwing,
lives on a Pacific island,
wing span of 11 inches.

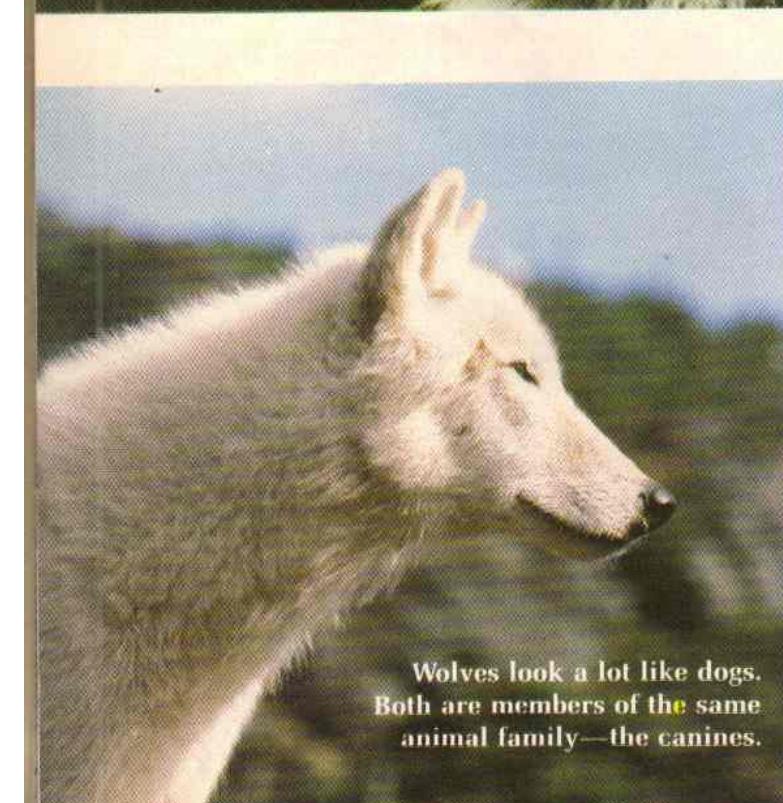


This wolf is a star
of the new movie
called *Never Cry Wolf*.

NEVER CRY WOLF

**A NEW MOVIE LOOKS AT A
MISUNDERSTOOD ANIMAL**

by Ken Wilson



Can you imagine spending time with a pack of wolves? No way! If you are like most people, you're probably afraid of these wild animals. But if you want to see some wolves from a safe distance, you might enjoy a new movie, called *Never Cry Wolf*. It follows the adventures of a man named Wendell Stibbs, who goes to study wolves in the Canadian wilderness.

To make the film, the actors and crew worked with wolves for several weeks. "At first the film crew was terrified," says director Carroll Ballard. "But as we began to work, their fears disappeared." The moviemakers learned many surprising things

Wolves look a lot like dogs.
Both are members of the same
animal family—the canines.

while working with the wolves.

Making the Movie

At first, the movie crew worked with three grown wolves. They play the wolf stars of the film called George, Angie and Uncle Louis. These three were trained by an experienced animal handler named Debbie Coe. She and her helpers trained the wolves by using the buzzer reward method.

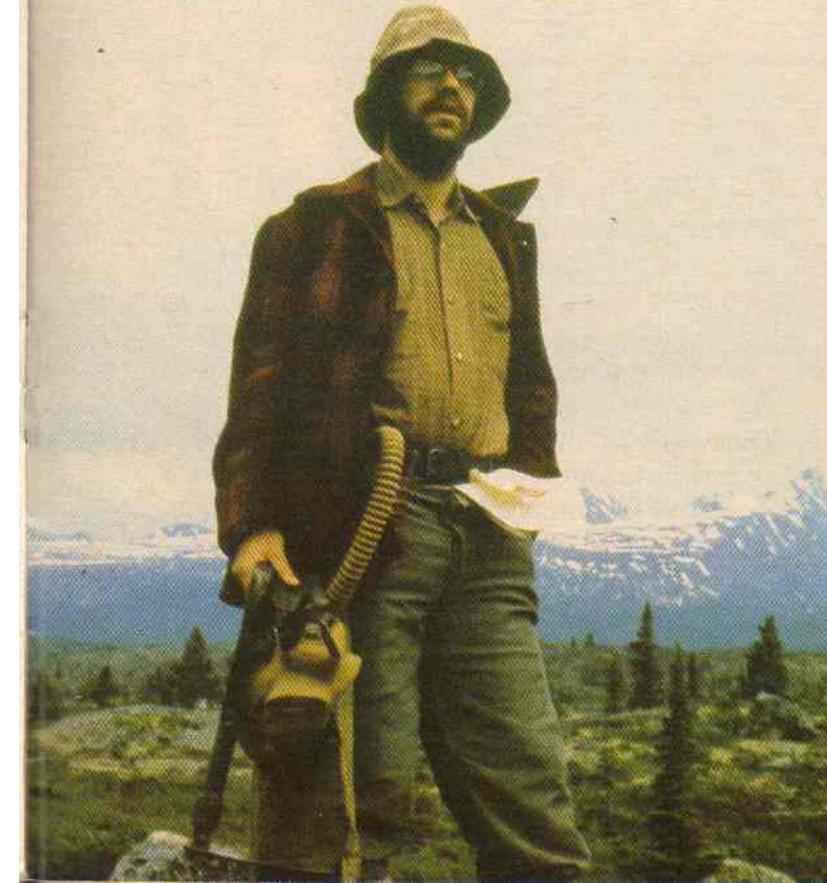
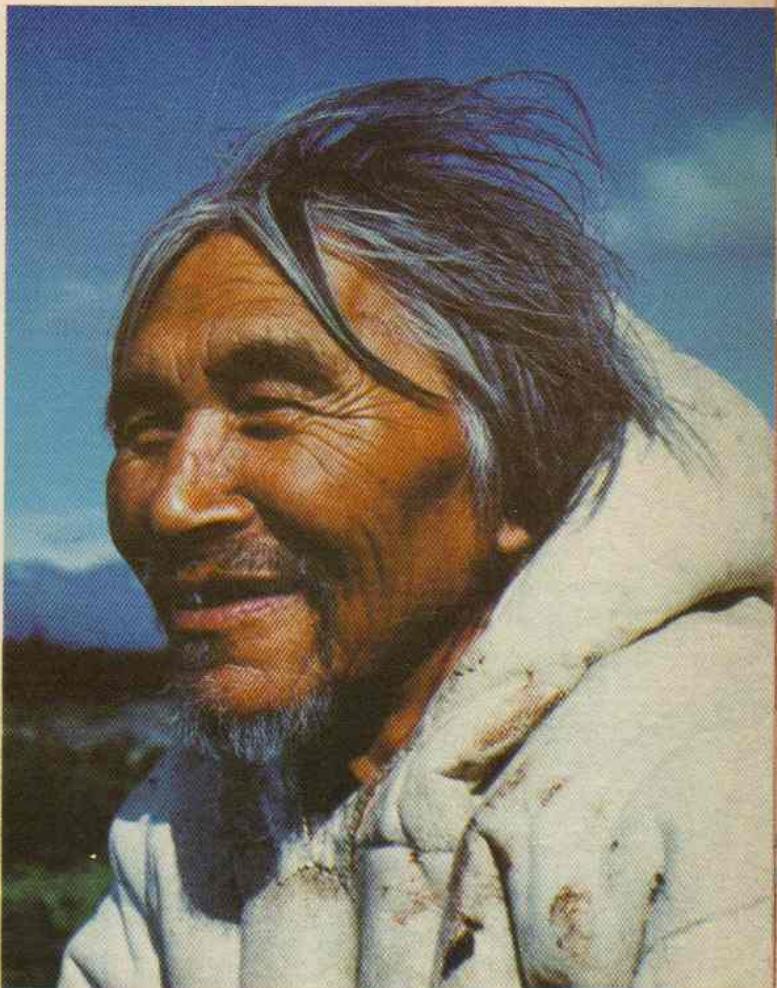
"When the animal hears the sound of a buzzer, it can expect a food reward," says Debbie. "If we want the animal to run, the buzzer goes fast. When we want the animal to pause, the buzzer is delayed."

The wolves were trained to do many tricks. But they couldn't be trained at all to do certain other things. In spite of what most people think about wolves, these animals were too easygoing. In one scene, for example, Carroll wanted them to attack the actor who plays Wendell to make a nightmare look convincing.

"Our wolves just wouldn't do that," says Carroll. "So we had to substitute trained attack dogs for them." Luckily, the scene takes place at night. In the movie, you aren't able to see the switch.

The trained wolves were also too tame for other scenes. For the hunting parts of the film, wolves

Below: Eskimos believe that people should not be afraid of wolves. They say that wolves almost never attack humans.



that were wild had to be found. The moviemakers got them from a wildlife refuge in Washington.

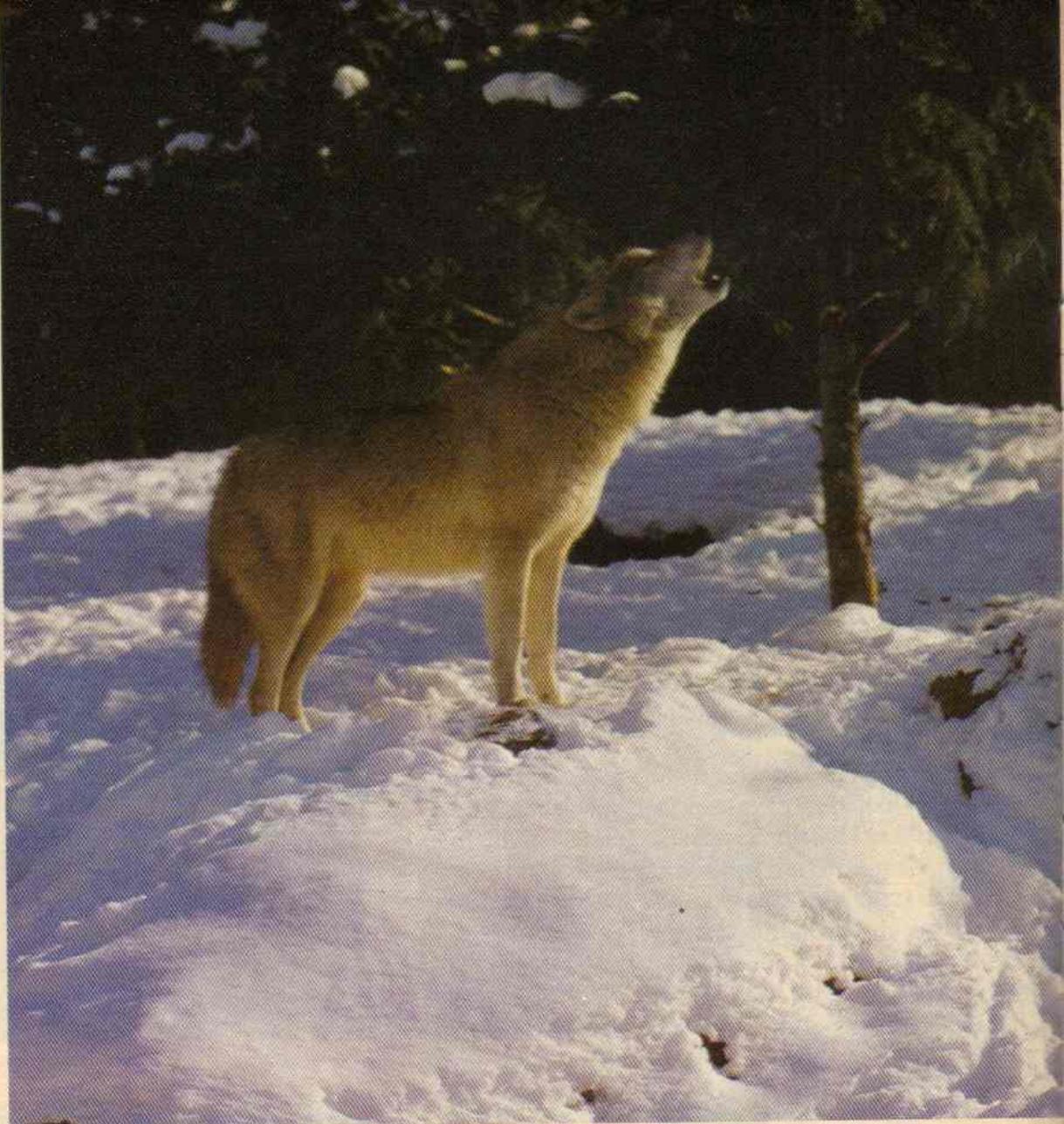
Why Wolves Vanished

This movie is loosely based on a book called *Never Cry Wolf*. It was written by Farley Mowat. Years ago, Mowat lived among wolves and observed them just as Wendell does in the movie. He imagined he would be in constant danger. But to his surprise, the den of wolves he found hardly paid any attention to him. They went right on hunting and raising their cubs. They never attacked Mowat. He discovered that wolves were not the vicious killers he had heard they were.

According to Mowat, many ideas people had about wolves were false. In the 1940s, everyone ➤

Left: *Never Cry Wolf* is a movie about a man who is scared of wolves but has to go into the wilderness to study them.

Right: In the wild, wolves often get together and howl before they go hunting. People can hear the eerie sounds from miles away.



said that Canadian wolves should be destroyed because they were killing too many caribou. These large deer were the main source of food for people in that area. Mowat thought the stories about wolves were spread by hunters who were paid to kill them.

The writer interviewed Eskimos who lived nearby. Some of them consider wolves sacred. They believe that wolves keep the caribou herd strong by killing off the weak animals and the old and sick ones. This made sense to Mowat. When fewer caribou are around, more food is left for the healthy ones. If sick caribou are killed, only the healthy ones survive to have babies.

The Truth About Wolves

Scientists say that wolves occasionally do kill healthy caribou as well. But, they add, catching

them is hard for wolves. Caribou are usually too strong and fast to be brought down easily. Wolves prefer animals that are easy to catch. That's why they eat lots of mice, ground squirrels and sometimes fish.

It's surprising that an animal that attacks mice and ground squirrels should be so feared by people. The wolf's bad name started long ago in Europe, according to one scientist. Dr. C. H. D. Clarke studied these animals for many years. He wrote that European wolves occasionally did attack people. But that happened, Dr. Clarke believed, only when the wolves were captured or when they were sick with a disease called rabies (RAY-beez). This illness also causes bats, foxes and other animals that normally never bite people to attack at times.

In the United States and Canada, early settlers

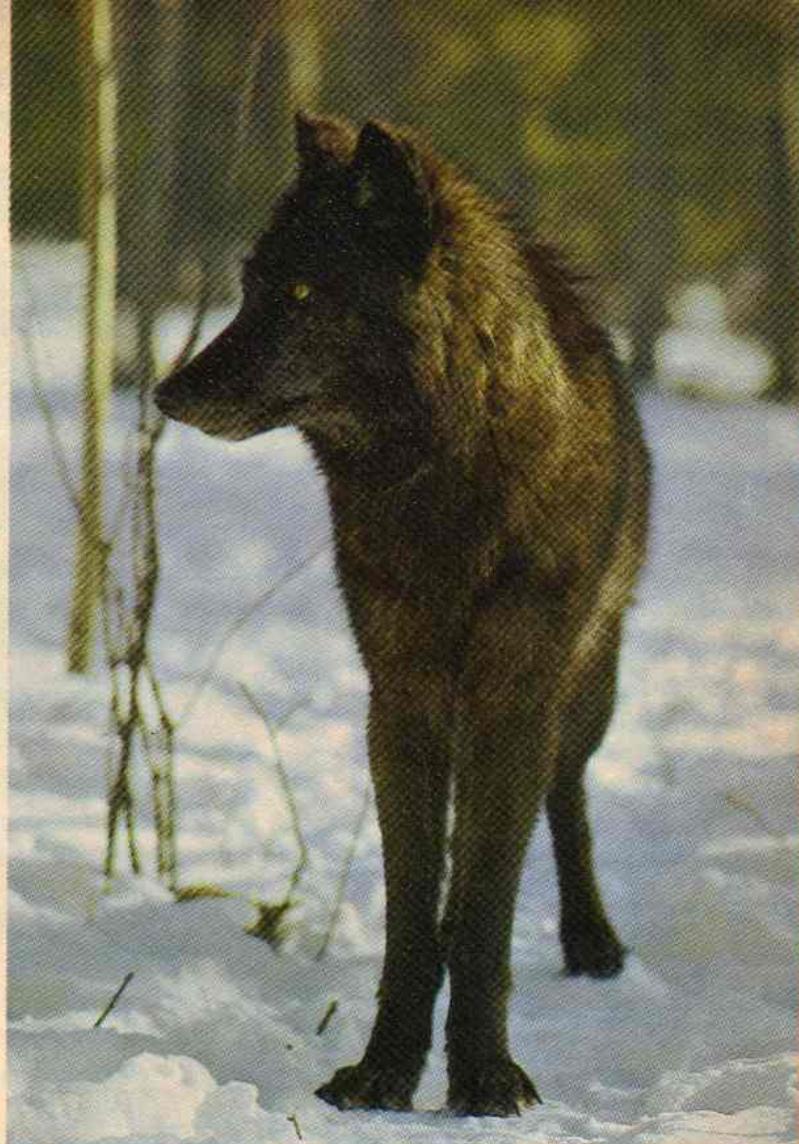
saw the wolf as an enemy for another reason. Many of them were farmers. Occasionally, their lambs and calves were eaten by wolves. People, in turn, began to kill the wolf in large numbers.

This human war against wolves was very successful. Of 23 different kinds of wolves that once lived in North America, seven are now extinct. Today, wolves survive in very few areas of the United States. They usually roam freely only in remote parts of Canada and Alaska.

Many nature lovers are sorry that this beautiful wild animal is vanishing. People who study the wolf find many things to respect. These animals seem to be intelligent. They're excellent hunters. Wolves are cooperative, too. They work together to bring down large strong animals. They also help each other raise their pups.

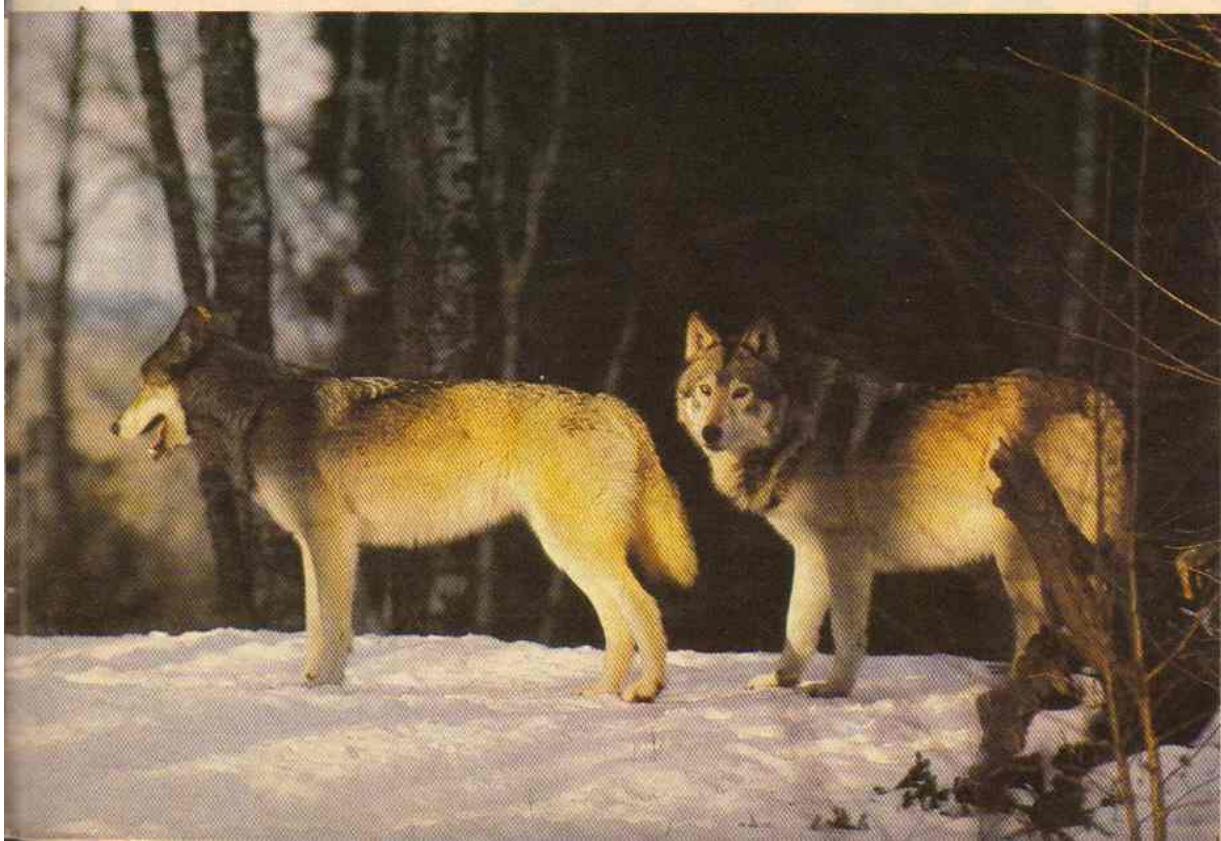
But in spite of their interesting qualities, wolves are still misunderstood and feared by many people today. Charles Martin Smith, the actor who plays Wendell in the movie, says, "I talked with local people while we were filming in the Yukon. Most still believe the false ideas about wolves we deal with in the movie."

Of course, *Never Cry Wolf* probably won't make you want to start hanging out with a pack of wolves. But the movie at least will show you the other side of the story about this misunderstood animal.



Above: Wolves can be many different colors from black to white. Many are gray or brown with white markings.

Left: Wolves are excellent hunters. They sometimes work together to bring down big animals such as moose and caribou.



The World's Biggest Riddles

1. This would be fun to eat any day of the week. But you had better ask some friends to join you for this one. It was covered with 65 pounds of whipped cream, 90 pounds of nuts, 250 pounds of strawberry topping and 250 pounds of chocolate.

2. This "house" was 61 stories high. Kings and queens helped build it. About 3,000 others were part of the deal, too. But if you huffed and puffed, you could easily have blown it down. You're a real ace if you guess this one.

3. You could find this instrument in most big rock bands. But none would be as huge as this one, built by the Harmony Company. At 8 feet, 10 inches tall, it's not easy to pick on.

In the *List of the Month* you read about some of the biggest things of all time. Here are some more biggies. Only this time, we're not telling you what they are. See if you can guess. **Answers on page 37.**

4. If you had the time, you could count 90,000 parts in this machine's body. Its hands are longer than a car. Its face is 40 feet high and 20 feet wide. Take a minute or two to think about this one.

5. You can find these growing on a tree, sitting on a table or cooling off in the refrigerator. People say "one a day keeps the doctor away." If that's true, this one would keep the doctor away for a week.

6. Give this a big smile, and it'll give you an even bigger wink. Almost nine feet high, it's too huge to carry. The answer to this riddle is a snap.

7. With four legs and 88 ivory teeth, this might be an animal that could use braces. Actually, at 11 feet and 8 inches long, it's a grand instrument.

8. This sits outside a factory in Sweden. A tired group of people would find it a perfect resting spot. But they might need a ladder to reach it, since it's over 29 feet high.

What's cooking?

A CONTACT QUIZ

by Megan Stine & H. William Stine

This quiz has bite-sized questions on some of the favorite foods that CONTACT readers named. Test yourself. See how much you know about the snacks and other foods that you gobble. After all, as the saying goes, you are what you eat!

1. French fries are actually healthier than baked potatoes because they're cooked faster.
True or False?
2. Two strips of bacon have more salt than a cup of cottage cheese.
True or False?
3. Both orange soda and cola drinks have caffeine in them.
True or False?
4. A banana has more calories than a chocolate chip cookie.
True or False?
5. It's healthier to drink milk with your peanut butter sandwich than to drink it several hours later.
True or False?
6. If you let a bowl of cereal sit out all day, it won't be as nutritious the next morning.
True or False?
7. A tuna and jelly sandwich on enriched white bread has more vitamins than tuna and jelly on natural whole wheat bread.
True or False?
8. The only ingredient in an all-beef hot dog is beef.
True or False?

Answers on next page.

QUIZ ANSWERS

1. False French fries may be tastier than baked potatoes, but they aren't healthier. Why not? Because they soak up a lot of the oil they're fried in.

The same goes for other fried foods—chicken, for example. Fried chicken is very high in fat, while baked chicken is not. Which just goes to show that how you prepare your favorite food is as important as the food itself. But don't bad-mouth french fries. They have a lot of potassium, an important mineral your body needs.

2. False Bacon is very high in salt, but so is cheese. However, cottage cheese has almost eight times as much protein! So you see, no one fact about a food should be considered alone. Cottage cheese is a very nourishing food, in spite of its high salt content. Of course, a bacon, lettuce and tomato sandwich on whole wheat isn't bad either.

3. True You've probably seen TV commercials about coffee and caffeine. But did you know that many soft drinks contain caffeine as well? Colas and many orange sodas are particularly high in caffeine, which can make people jittery and restless. Unfortunately, soda companies don't have to put their ingredients on the label. So unless the label proudly states it's "caffeine free," you don't know what you're drinking.

4. True Bananas have 85 calories each. One chocolate chip cookie has about 75. But who ever eats just one cookie!

Kids need lots of calories which provide energy. But before you rush to the cookie jar "for your health," think again. When you choose a snack, what else are you getting besides calories? With cookies you often get mostly sugar. Bananas, on the other hand, provide potassium, as potatoes do. Sorry guys!

5. True That's because many foods work better in your body when they're eaten together at the same meal. The protein in peanut butter, for example, is incomplete. But when eaten with a little milk, it becomes complete. Corn meal and beans work the same way—as in Mexican tostados. Ditto for Chinese pork fried rice. The rice protein is incomplete, but the pork helps it out. Ideally, the incomplete protein food and its helper should be eaten together. Even if a couple of hours goes by, you'll still get the value of the complete protein. But if you eat them four hours apart, the special combination doesn't work.

6. True Here's the scoop on dried cereals. Most cereals are processed so much that they lose a lot of their natural vitamins. To make up for this, extra vitamins are sprayed onto them.

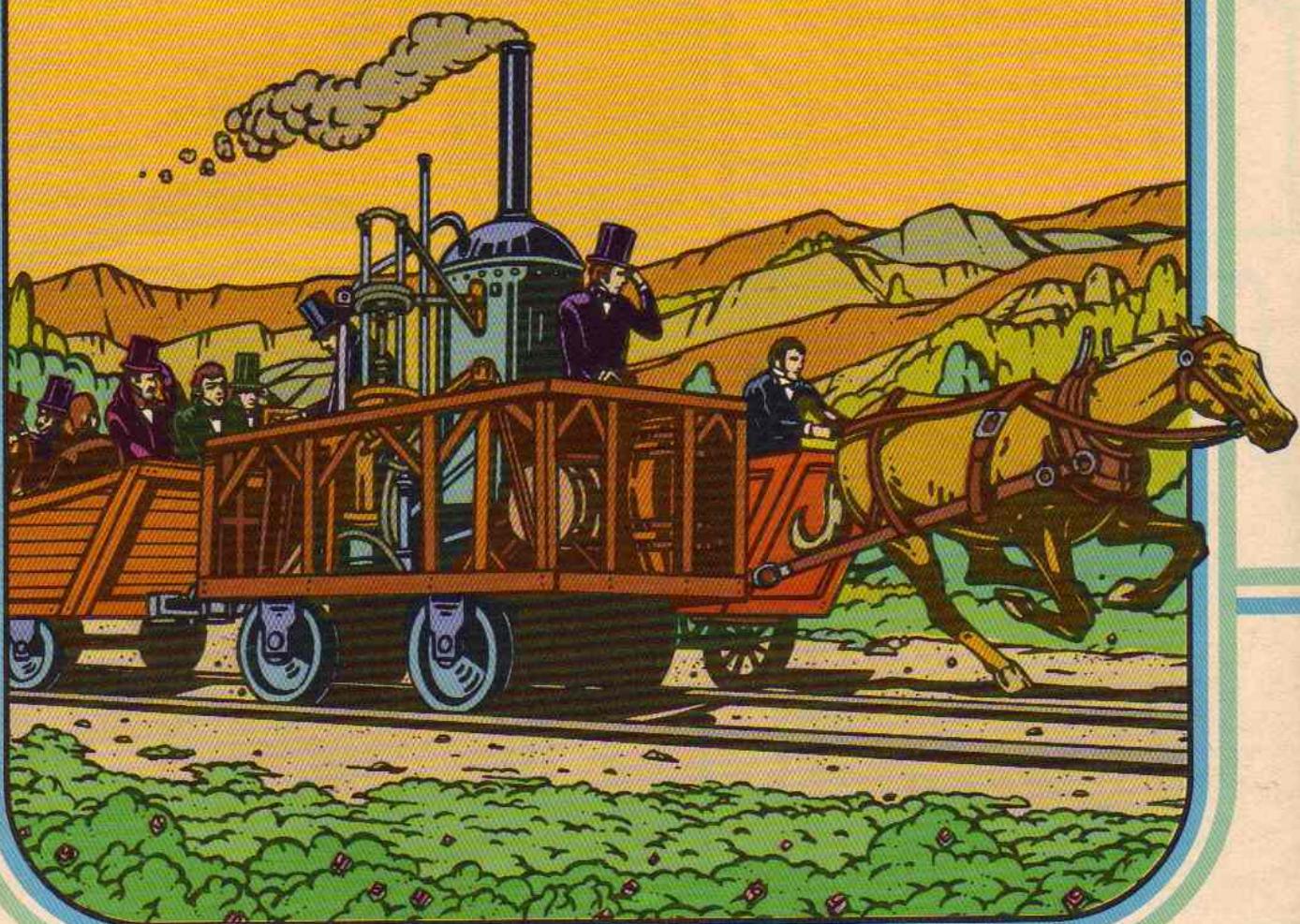
Light, however, destroys these vitamin sprays. So a bowl of cereal that has been sitting out all day is not as good for you as one poured straight from the box.

Besides, who wants to eat a bowl of stale, old cereal?

7. False White bread is made from white flour which has been processed so much that many vitamins are lost. In enriched white bread, some of these vitamins have been put back. But not all of them are replaced. So natural whole wheat bread is better for you—although if you're willing to eat tuna and jelly, you should have it on any bread you want!

8. False Hot dogs are often more than 50 percent water. And they usually contain some form of sugar, plus salt, spices and preservatives. The all-beef label simply means that all the meat comes from a cow, instead of a pig or chicken or heaven-knows-what!

Timeline



The horse won this race, over 150 years ago.

The History of Trains

by **Rebecca Herman**

Past

In 1830, a race was held near Baltimore, Maryland. The contestants were a horse and a steam locomotive. At first the locomotive pulled ahead. Soon a belt on its engine broke. The train slowed down and the horse won the race. But that wasn't the end of steam-driven trains.

The first steam locomotive was built by Richard Trevithick, an Englishman, in 1804. By 1830, people in the U.S. began using steam locomotives to pull trains. Wood powered the engines. They didn't get tired, as horses did. So, even though the steam locomotive lost

the race in Maryland, most people knew that steam-powered trains were here to stay.

The steam engine was improved. Soon it could pull more cars faster. In the 1870s, locomotives began running on coal. Coal burned longer than wood, so it made a better fuel. The railroad companies built larger, smoother-riding passenger and freight cars, too.

Around 1900, a few railroads began using electricity to drive their trains. The power came from a wire overhead or a third rail on the tracks.

Electric trains were faster, quieter and cleaner than steam engines. In the 1930s, another clean, fast and powerful engine came on the scene—the diesel. It ran on fuel oil. By the 1960s, almost all trains were running on either electricity or diesel fuel.

Present

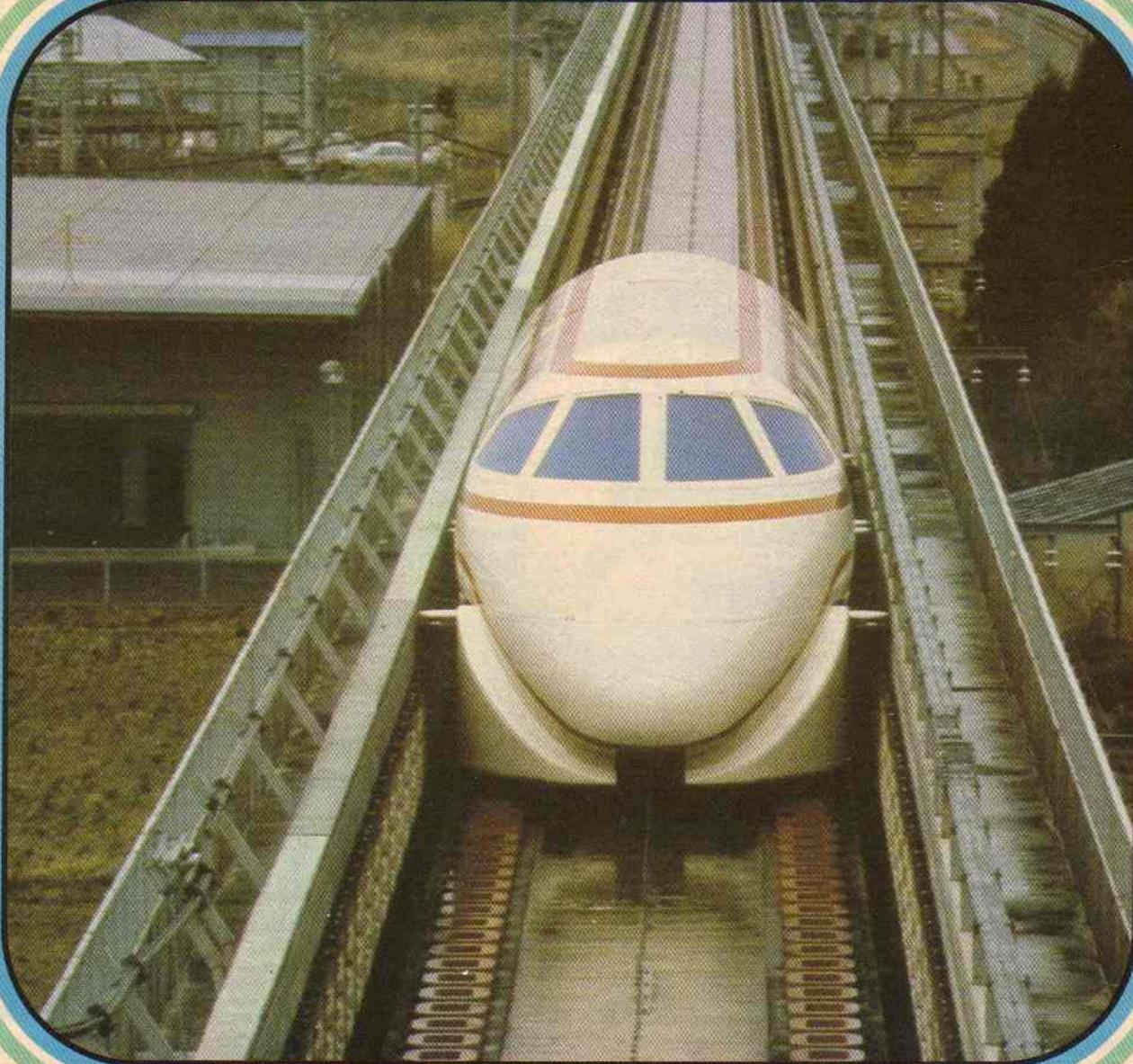
Today trains remain an important form of transportation. Thousands and thousands of passenger and freight trains roar across the U.S. every day. There are so many railroad tracks in the entire world, that if the tracks were laid end to end, they would stretch more than 30 times around the globe.

Trains are still powered by diesel or electricity. Most passenger trains, which run on electricity, travel about 80 miles (130 km) per hour. Many Japanese trains travel more than 100 miles (160 km) an hour. The fastest train in everyday use is in France. It can zoom along at 150 miles (240 km) per hour. That's almost three times as fast as you would usually ride in a car.

If you think that's speedy, what about a train that could travel 250 miles (400 km) an hour? That train would be whooshing by so fast that if you stuck your arm out the window, it could break. So, to be safe, the windows on this train don't open.

This new train, made by the Budd Company, is being tested now in Japan and West Germany. The maglev, as the train is called, doesn't work the way regular trains do. Instead, it is powered by magnets. The magnets that pull the train work together with electricity. The train floats above the track on a magnetic cushion. There's no noise and the ride is smooth. If you didn't look out the window, you wouldn't know you were moving at all!

Timeline



The O-shaped magnets power this new train, which travels 250 miles (400 km) an hour.

MAIL

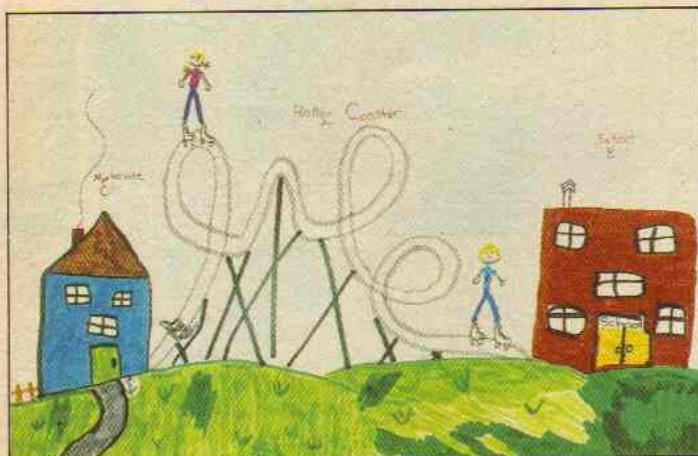
Future Roller Coasters Thanks for sending in all those great future roller coasters. Here are some of our favorites:



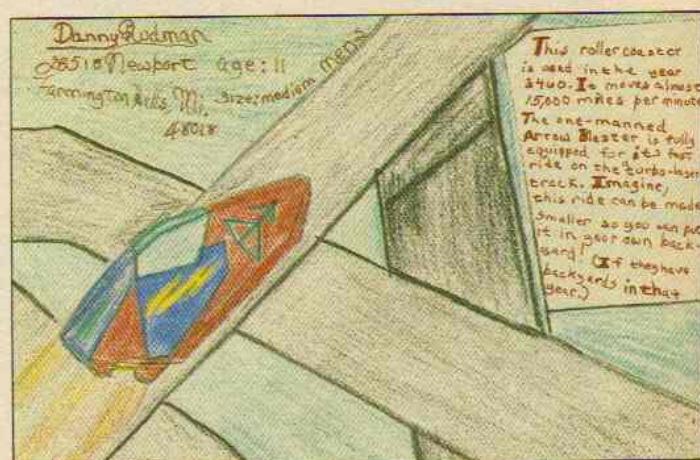
Leslie Donaldson, Traverse City, MI. This takes you to Rainbow Land.



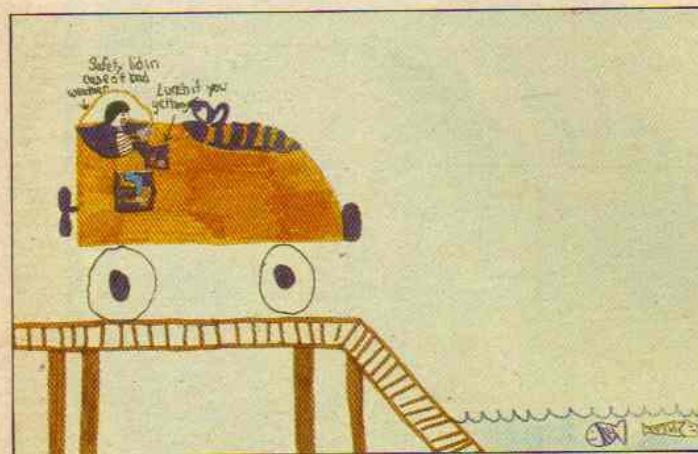
Pami Smoluk, Hockessin, DE. Zoom through space on this human-powered coaster!



Mindy Blessing, Kearney, NE. Skaters can just roll into school with this coaster.



Danny Rudman, Farmington Hills, MI. Shrink the Arrow Blaster to fit in your backyard.



Kelly Perkins, Denton, TX. The Roller Skate Coaster gets its energy when you pedal.



Michael Shaw, Littleton, CO. Space Ways is powered by a super-sonic fan.

Contest Winners

Remember when Erin Quirk asked, "Which is more important, the brain or the heart?" Thanks to all of you who sent in your answers. Here are our favorites:

All of the things in your body are important at some time or they would not be in your body.

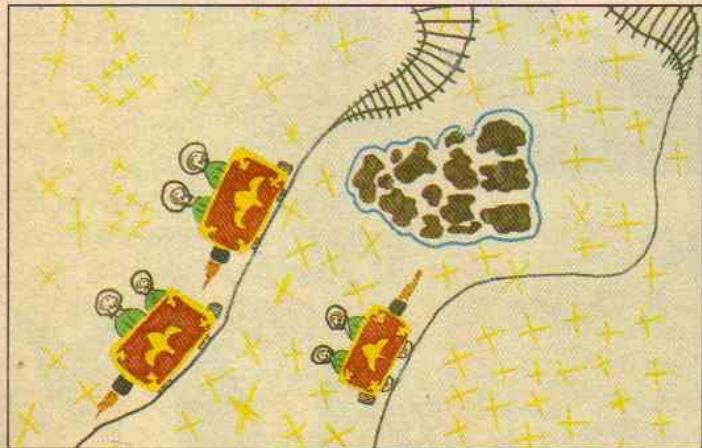
Teff Reed, Greenwich, CT

I think the heart is more important because your heart pumps blood to the brain. If your brain didn't get blood which contains oxygen, it would be damaged or could die. Then you could not be happy or sad or have any other feelings. Also, you could not learn or remember or read.

Brigette Uhl, North Vancouver, B.C., Canada



Mike Paris, Kennewick, WA. Drive and fly with this jet-powered coaster.



Rand Ros, Modesto, CA. The bumpers on the asteroids keep these coasters from crashing.

What is the good of living if your brain does not function? You can't enjoy the singing of the birds at dawn. Or enjoy the scent of the springtime flowers.

Patricia Meredith Greenspan, Brooklyn, NY

When a woman is having a baby you can hear the tiny heart beating. You can't hear the brain.

Samantha Grabelle, Tinton Falls, NJ

If I didn't have a brain I wouldn't be writing this.

Veronica Rettig, Chicago, IL

A heart can be replaced, a brain can't.

Chris Mayfield, Springfield, IL

The heart must be pretty special. We don't send brain-shaped cards on Valentine's Day.

Bertha Cagni, McMurray, PA

The brain is more important because it controls all the parts of your body.

Melissa Jepp, Gastonia, NC

I took a vote in class and we have 30 pupils and all 30 of them would rather have a heart.

Alice Hasty, Hammond, IN

Your heart is more important because if you didn't have a beating heart to carry oxygen to your brain, you wouldn't have a functioning brain.

Owen Evans, Westfield, NJ

It is like the question, "Which came first, the chicken or the egg?" Which is more important? You tell me. The heart keeps you alive. But your brain keeps your heart beating.

Cory Willingham, Houston, TX

Timeline

Send Us Your Future Trains

What do you think the trains of the future will be like? Maybe they will zoom over the ocean. There might be double-decker trains. Or will they be powered by the sun? The choice is yours. Send us your drawing for the train of the future. Tell us what it does. Don't forget to include your name, address and T-shirt size. Our favorites will get CONTACT T-shirts. Write to:

Timeline: Trains

3-2-1 CONTACT

P.O. Box 599

Ridgefield, NJ 07657

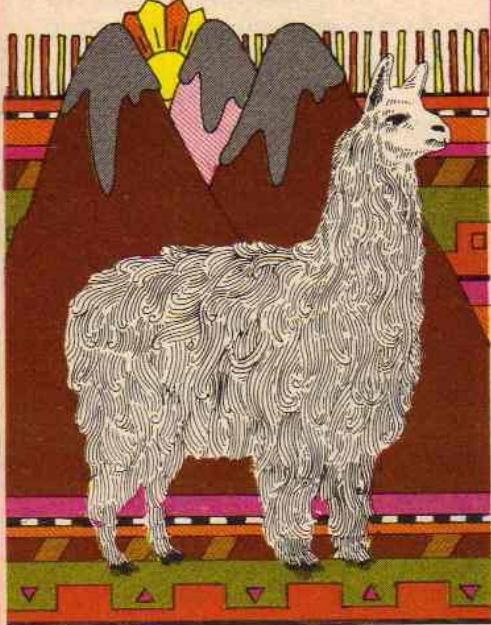
Reviews &

Here are some books to read and things to do and see after reading this issue of 3-2-1 CONTACT.

3-2-1 Contest

This month's contest is a little different. It's about an animal called the alpaca (al-PACK-uh). Here's some information to get you started. Alpacas:

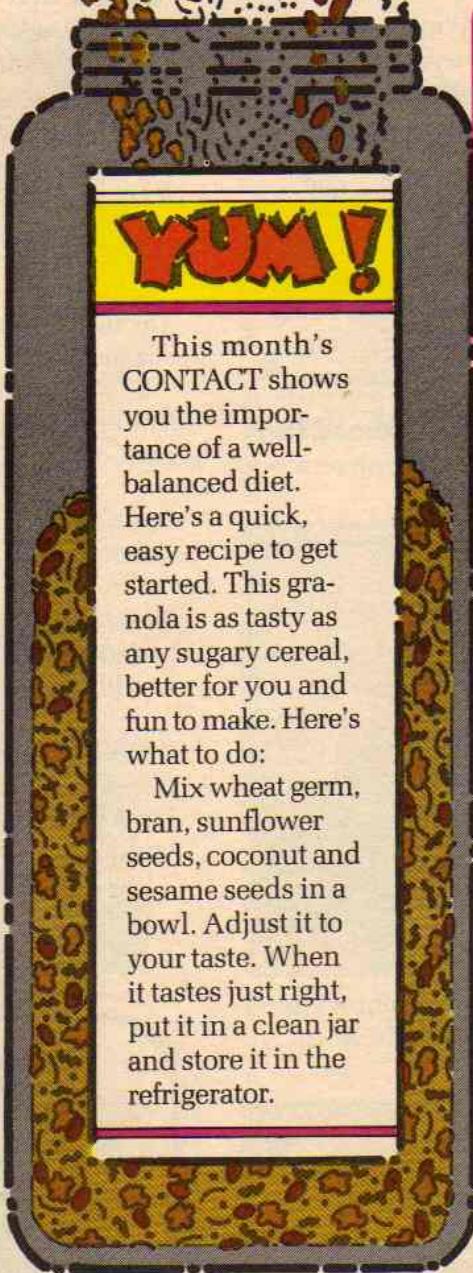
- *Live in the Andes Mountains of South America.
- *Have shaggy hair that can be 2 feet (.6 m) long.



- *Are black, brown or white.
- *Have long, low bodies 4 feet (1.2 m) high. Their long necks stick up much higher.
- *Graze in flocks on mountains.
- *Are related to llamas and camels.

Use some of these facts and any others you might find in an encyclopedia to describe the alpaca in a poem! Winners will get T-shirts. Send your poem, name, address and T-shirt size to:

3-2-1 Contest: Alpaca Poem
P.O. Box 599
Ridgefield, NJ 07657



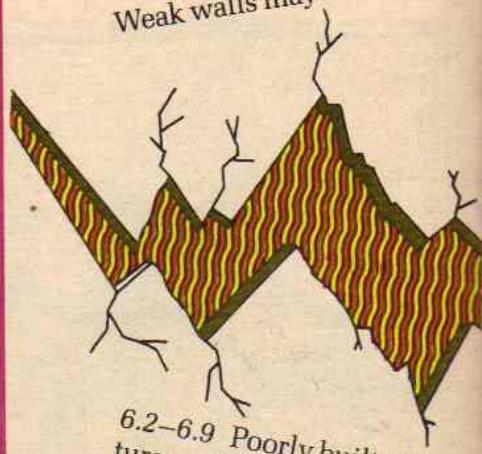
This month's CONTACT shows you the importance of a well-balanced diet. Here's a quick, easy recipe to get started. This granola is as tasty as any sugary cereal, better for you and fun to make. Here's what to do:

Mix wheat germ, bran, sunflower seeds, coconut and sesame seeds in a bowl. Adjust it to your taste. When it tastes just right, put it in a clean jar and store it in the refrigerator.

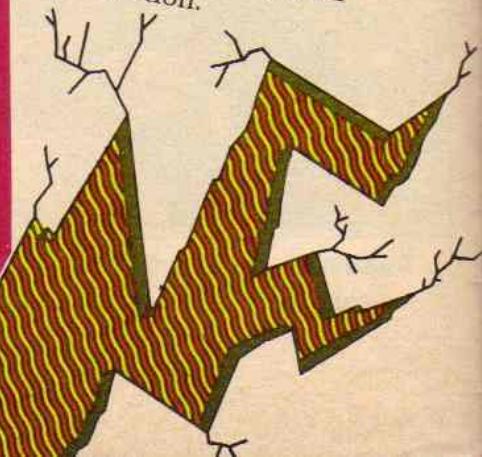
Quake Scale

This month's Earth Works is on earthquakes. The Richter Scale measures how strong they are with numbers from 1 to 9. If you were in an earthquake, here's what you would see and feel at each level:

- Below 1.9 Felt only by detecting instruments.
- 2.0-3.4 Felt by few people. Light, suspended objects sway.
- 3.5-4.2 May sound and feel like a passing truck.
- 4.3-4.8 Felt by most people. Windows break. Tall poles sway.
- 4.9-5.4 Pictures and plaster may fall off walls.
- 5.5-6.1 Buildings shake. Weak walls may crack.



- 6.2-6.9 Poorly built structures collapse.
- 7.0-7.3 Buildings seriously damaged. Ground cracks open.
- 7.4-7.9 Buildings destroyed. Railroad tracks bend. Landslides.
- 8.0-8.9 Buildings, bridges collapse. Ground moves like waves. Nearly total destruction.



Previews

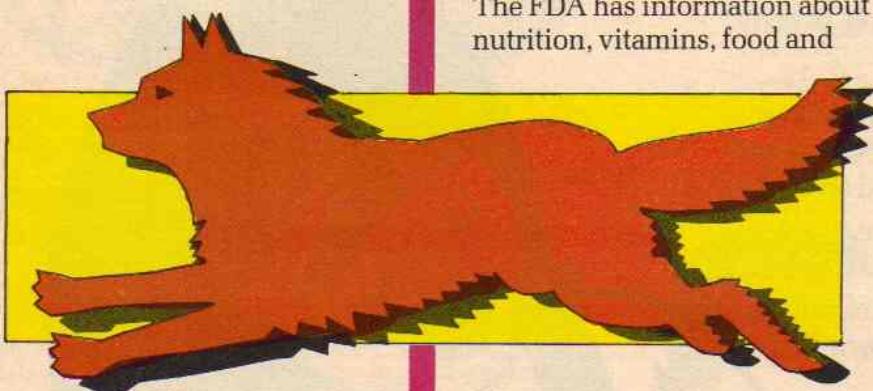
Wolf Books

You read about wolves on page 22. If you'd like to read more, there are plenty of books at your library or at a bookstore on the subject. Here are some to look for:

The Moon of the Gray Wolves

During the Alaskan winter, gray wolves are always on the move. Through snow, ice and freezing cold they must hunt for food to survive. In this book by Jean Craighead George you will follow a pack of wolves through the frozen wilderness. The book is published by Thomas Y. Crowell Company.

The Wolf In this book you will meet Shadow, Silver, Old Two



Toes, Dawn, Dusky, Blackie, Blondie and Tundra. They're a family of wolves. You will also see how little wolves grow up, learn to hunt and fight, and to take care of themselves. *The Wolf* is written by Michael Fox and published by Coward, McCann & Geohegan, Inc.

The Kingdom of the Wolves

When you think of wolves, you

probably picture strange, evil beasts howling at the moon—or maybe even werewolves. Images like this scared people long ago. Now people know these things aren't true. In this book by Scott Barry, you'll read amazing things about wolves. You'll also find out how some were saved from extinction. G. P. Putnam's Sons is the publisher.

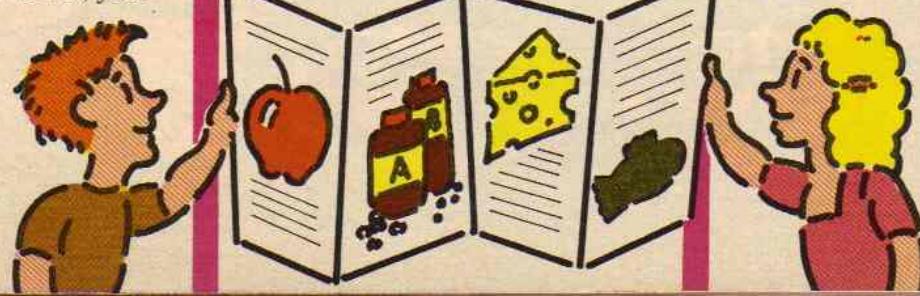
Free Food Facts

Even though you may think reading this month's CONTACT has made you a food expert, you can always use more information.

The Food and Drug Administration is a good place to start. The FDA has information about nutrition, vitamins, food and

food additives. We can't tell you exactly what they have on hand. But if you write to the FDA they will send whatever free information is available. Write to:

**Food and Drug Administration
Consumer Communications
5600 Fishers Lane
Rockville, MD 20857**



Movie Museum

This review was sent in by John Larsen, Glencoe, Minnesota.

The Minnesota Science Museum in St. Paul has an Omni Theater. It is different from other movie theaters because you lay on your back in a chair to see the screen. You do this because the screen is shaped like a half circle that goes over your head.

They show many exciting movies there such as "The Great Barrier Reef" and "Mount St. Helens' Eruption." It's a good place to learn facts about science and have a good time watching a movie.

Been to a science museum lately? Why not write a review, of 100 words or less, and send it to CONTACT. If we use yours, you'll get a T-shirt. Send your review, name, address and T-shirt size to:

**3-2-1 CONTACT:
Museum Review
P.O. Box 599
Ridgefield, NJ
07657**

Experiment

Vitamin Trick

Vitamin C in your food is good for you. But it is often good for the food, too. To find out why, try this experiment.

What You Need

a 250 mg vitamin C tablet
an apple
water
2 paper cups
a measuring cup

a knife
2 plates
a spoon
a pastry brush

What You Do

1. Pour a cup of warm water into one of the paper cups. Put the vitamin C tablet in. Stir and mash until the tablet dissolves completely. This could take as long as a half hour.
2. Pour plain water into the other paper cup.
3. Cut the apple into eight pieces.
4. Put half the pieces on one plate and half on the other.
5. With the pastry brush, coat one group of apples with lots of plain water. Brush the other group with lots of vitamin C solution. Let both stand and see what happens.

Why It Works

After 15 minutes or so, the apple pieces brushed with plain water have begun to turn brown. But

those coated with vitamin C solution have not.

When you leave a piece of apple out in the air, a chemical reaction takes place. Oxygen in the air combines with the apple and turns it brown. That's what happened to the apples covered with plain water.

The vitamin C covering the other apples stopped the oxygen from mixing with the apple. So the pieces didn't turn brown. Vitamin C is an antioxidant. It prevents oxygen from combining with things.

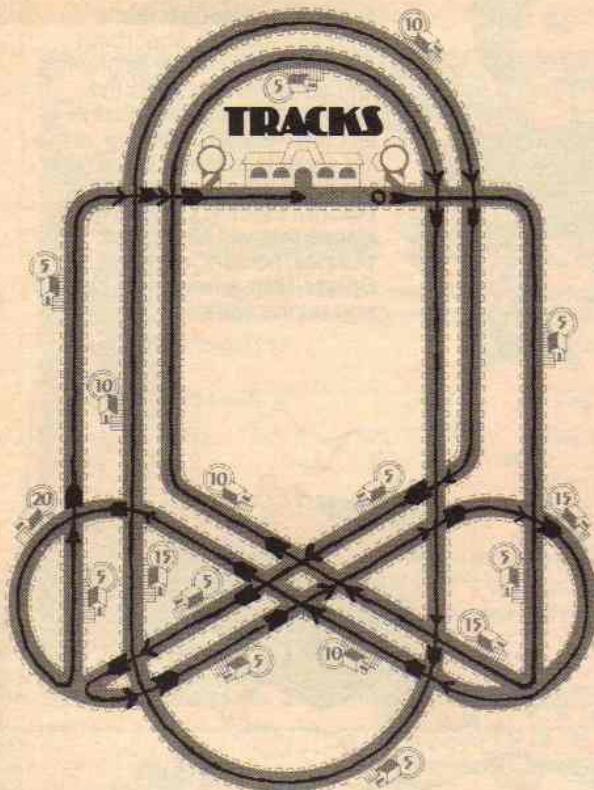
Foods that contain a lot of vitamin C are often used as a preservative. Recipes that use a lot of apples often call for mixing in a little lemon juice. The lemon flavor gives the apples a tangy taste. And vitamin C in the juice keeps the apples looking fresh, too.



Did It! ED

Tracks (page 17)

There are many different ways to go. Here is the ride we took to pick up all 150 passengers.



Oops!

We goofed in our June, 1982, issue. Unlike what we told you in the *Summer Bummers* quiz, you should remove a bee stinger by gently scraping it with your fingernail in one direction. Thanks to those of you who caught our error. Also, in the *List of the Month*, the gluey threads that sea cucumbers squirt do not come from their needles. The threads are actually part of the creature's internal organs. Thanks to Christina M. McComb, Julian, CA, for writing. And thanks to Gigi Maurer, Wheaton, IL, for writing about our roller coaster *Timeline*. It is the "Demon" which plunges into a tunnel.

Credits

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The World's Biggest Riddles (page 26)

- 1. Ice cream sundae** Made by some students in Missouri on September 2, 1979, it had 9,616 pounds of ice cream.
- 2. House of cards** Built by James Warnock in Quebec, Canada, on September 8, 1978, it had 3,650 playing cards.
- 3. Guitar** It can be played by two people and weighs 80 pounds.
- 4. Clock** It took three years to build this French timepiece.
- 5. Apple** Grown in England in 1965, it weighed three pounds and one ounce.
- 6. Camera** Built in England, it's more than eight feet wide and 35 feet long.
- 7. Grand piano** Built in London in 1935, it weighs one and 1/3 tons.
- 8. Chair** Almost 14 feet wide, at least 5 people could sit in it.

Thank You!

Special thanks to student interns Nancy Arnott and Carol Costello for their help with this month's issue, and to Judy Casulli for helping to write this month's *Reviews & Previews*.

Thanks, also, to Dr. Durward Allen for advice on the wolf story.

Next Month!

Here's a sample of what you'll find in the next issue of 3-2-1 CONTACT:

Tree Tale

Read what it's like living on a farm that grows Christmas trees.

Bloodhound Gang

What will happen in part two of "A Case of Trouble in Paradise"?

Birds in Trouble

Find out how people are trying to help puffins survive.

Plus Factoids, Poster, Mail and Much More!

Perfect gifts for Christmas

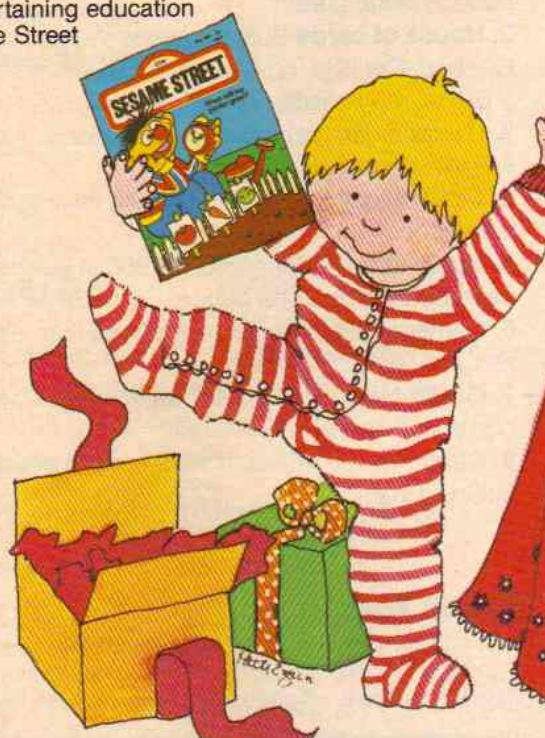
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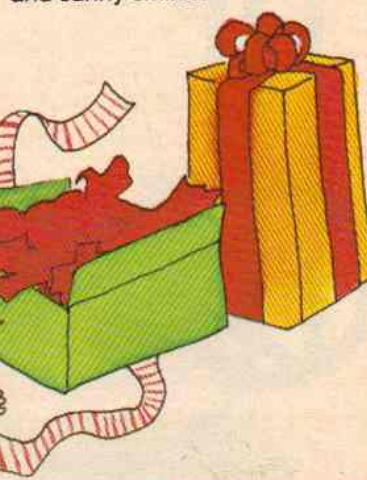
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Earthfacts: Earthquakes

by **Rebecca Herman**

Each month CONTACT will bring you another Earth Works. Save these pages in a notebook. Soon you will have your own guide to the wonders of the planet earth.

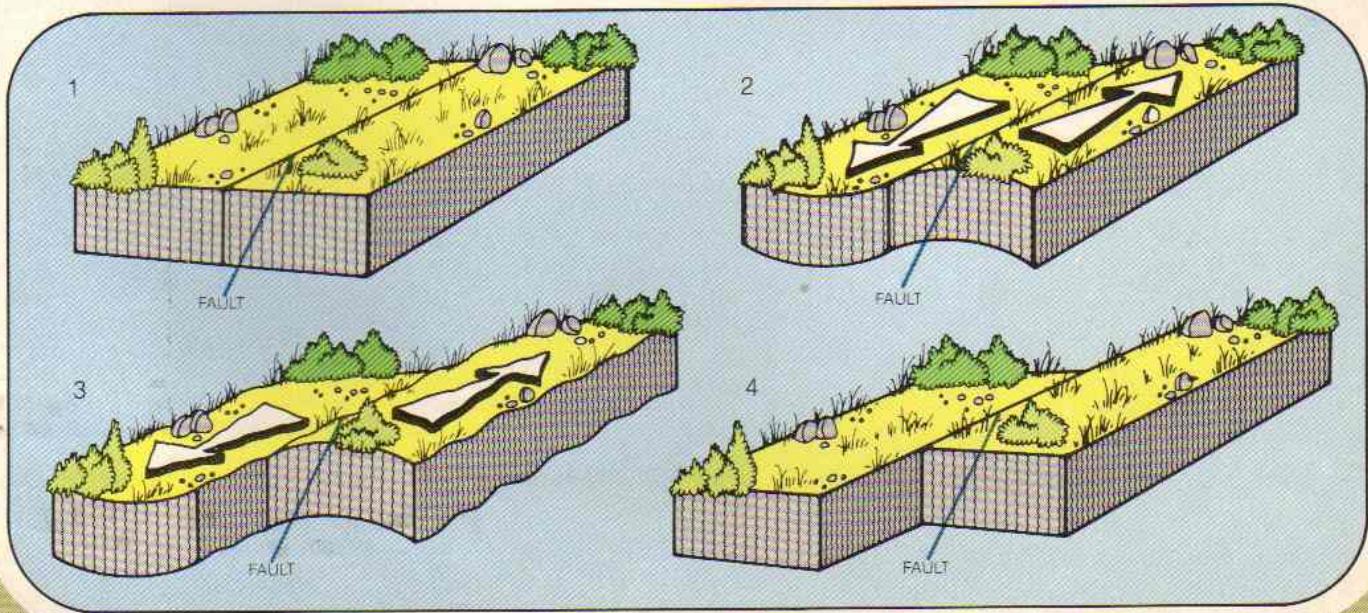
- The earth's crust is made of several huge pieces of rock called *plates*. They fit together like a giant jigsaw puzzle. Most earthquakes occur at the edges of these plates.
- The giant plates move up to four inches (10 cm) a year. As the giant plates move, they pull apart or collide along their borders. This causes the earth to quake. The rock slips along cracks in the earth called *faults*.
- The world's quakes mostly take place in two areas. They are along the borders of the Pacific Ocean and in a belt from across Asia to southern Europe and northern Africa. Other earthquake areas are under the middle of the oceans.
- Although it is rare, earthquakes have been known to take place far away from any plate borders. Once in a while, one plate collides with another and sends the tremors rippling under the ground to a point hundreds of miles away.
- There are as many as one million earthquakes each year throughout the world. Most of them take place beneath the sea, so no one feels them.
- When the starting point, or *focus*, of a large quake is under the ocean, the sea floor rises and falls. At the surface, huge waves, called tidal waves or

EarthWorks

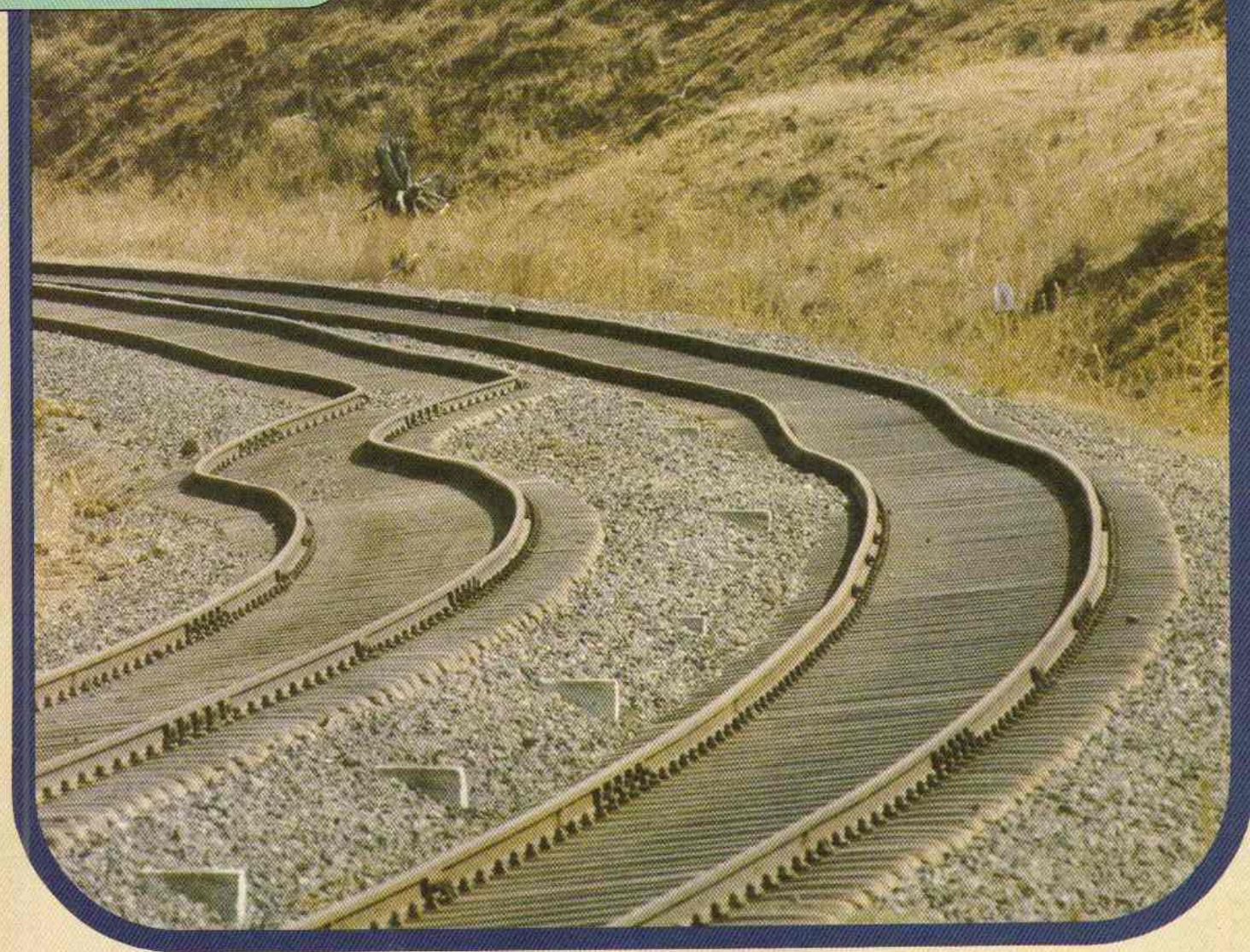
tsunamis (tsoo-NAHM-mees) may form. The waves travel as fast as a plane. As they near land, they form great walls of water. These roar onto shore, smashing boats and houses and drowning people.

- Although most earthquakes aren't noticed, some can cause great damage. The effects of the earthquakes in Algeria in 1980 killed 20,000 people and destroyed 200,000 homes.
- The earth's movements are recorded by an instrument called the *seismograph* (SIZE-muh-graph). Seismographs throughout the world are always measuring the earth's movements. Seismograph readings might give experts the clues they need to accurately predict earthquakes.
- Other natural changes might also help predict quakes. Because of movement deep in the earth before a quake, the level and temperature of water in wells changes. Animals seem able to sense an oncoming quake. Rats leave houses and dogs bark more than usual.

Below: 1. The ground is at rest. 2. Before an earthquake, stress builds up as the plates strain to move apart. 3. When the rocks finally slip along the fault, an earthquake occurs. 4. The ground comes to a new resting position.



EarthWorks



Earthquakes

When these tracks were laid in Algeria, they weren't crooked. But, one day in 1980, two earthquakes hit that African country. The ground shifted. These rails moved right along with it.

Most quakes aren't strong enough to move train tracks. In fact, some are so small that they sound like trucks rumbling by.

When a stronger earthquake strikes, people feel a sharp thud and the ground swaying. They hear the rumble of the earth beneath their feet. Most of the damage during a quake is caused when buildings collapse and fires break out.

To read more about earthquakes, turn to page 39.

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